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Implementing accessibility in municipal planning—Planners' view

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Abstract: Accessibility in public outdoor environments for those with reduced functional capacity has been gaining interest on both the international and national levels. This study investigates how accessibility issues are currently treated in Swedish municipalities in order to examine how the accessibility needs of older people are met in daily practice. A postal questionnaire was sent to all municipalities in Sweden (N=290) with questions mainly regarding three categories: (1) existence of policies & planning documents, cooperation with interest organizations, and measures implemented, (2) awareness and use of governmental directives and recommendations relevant for accessibility issues and (3) statements of how accessibility issues are treated among municipal politicians and employees as perceived by the respondent. In the data analysis, a quantitative ranking of each one of the three categories was created using questions from the questionnaire to indicate the level of accessibility implemented in municipal planning. The results show a large variation in the accessibility standard among the municipalities in Sweden. In municipalities that have planning documents, e.g. accessibility plan, accessibility issues are treated more positively among the municipal politicians and employees. This positive relationship with the treatment of accessibility was also found with factors such as municipalities have an accessibility adviser employed, municipalities cooperate with senior organizations, and municipalities use governmental directives and recommendations relevant for accessibility issues. This paper concludes that although there is still much to do to accomplish a society accessible to all citizens, a majority of the Swedish municipalities are nevertheless positive to accessibility issues.

Keywords: Accessibility; Barrier-free design; Older people; Policy; Planning; Municipality

1 Introduction

Accessibility concerns person-environment relationships. According to the ecological model (Lawton and Nahemow 1973) there is a transaction between individual competence (capacity) and environmental pressure (demand); some environments impose great pressure on individuals, while others do not. In Lawton (1986), the environmental docility hypothesis suggests that the less competent the individual, the greater the impact of environmental factors on that individual. Hence, an improvement in the environment can make a huge difference for a person with lower capacity, while a minor deterioration in individual capacity can totally upset the balance. The concept of accessibility is defined by Iwarsson and Ståhl (2003) according to the ecological model and the environmental docility hypothesis, suggesting that accessibility comprises both personal and environmental components. Therefore, accessibility must be analyzed

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by an integration of both components. Accessibility is an objective and measurable concept, and relates to societal norms and legislation (Iwarsson and Ståhl 2003).

Recently, accessibility for people with reduced functional capacity has been a subject of increasing interest on both the international and national levels; the needs of older people are one area affected. The UN Standard Rules on Equalization of Opportunities for People with Disabilities (United Nations 1993) represent early international ambitions on accessibility. The UN Convention on the Rights of Persons with Disabilities (United Nations 2006) is emphasising disability as a broad human rights issue and a matter of law and has jointly been signed by the European Community and its member states. Accessibility is also a part of the agenda adopted by the EU council of Lisbon 2000, which set 2010 as the target for full accessibility (Euro Access 2008). Within the transport sector, the importance for governments of improving accessibility and thus the mobility of people with disabilities and older people is emphasised in, for example, ECMT (2000b). In addition, OECD (2001) is one of several reports referring to the aging population in developed countries, demanding governmental action to ensure older people's safe, lifelong mobility.

On national levels, there are wide variations in the progress achieved. Some countries have adopted strongly proactive legislation, while others have carried out relatively few measures. ECMT (2000a, 2006) report on several new legislative developments during the 1990s and the 2000s. For example, the Americans with Disabilities Act of 1990 (ADA) provides technical norms and standards for accessible design (ADA 1990). The UK adopted a Disability Discrimination Act (DDA) in 1995, and added a second DDA in 2005 with further requirements appended to the legal framework for transport accessibility (DDA 1995; DDA 2005). Another example is France, which previously reviewed its 1975 law on compensation and social coverage, "Equal Rights and Opportunities, Participation and Citizenship of Disabled Persons," and added important positions on accessibility of transport and public buildings (Loi no. 2005-102).

In Sweden, the Parliament adopted a national action plan in 2000 for a future policy for disabled people, "From patient to citizen." One of the goals of the plan is to make public environments accessible to people of all ages with disabilities (Prop. 1999/2000:79). This plan led to the Swedish governmental directives on accessibility, related to the Planning and Building Act, requiring municipalities to identify and eliminate different predefined types of barriers—so-called "easily removed barriers"—in public environments before 2010 (BFS 2003:19 HIN1). These directives are retroactive, requiring not only that new constructions be accessible, but also that existing barriers be eliminated. BFS 2004:15 ALM1 goes still further than BFS 2003:19 HIN1, presenting stricter demands for new constructions. Similar detailed directives, connected to planning and building legislation, for planning and design of roads and streets are adopted in many other European countries as well (Euro Access 2008). The Swedish directives are also backed by guidelines for identifying barriers to access in built environments and preparing a municipal accessibility plan, as well as measures and measurements for designing accessible environments

The focus of this paper is on older people as pedestrians in public outdoor environments. Legislation, directives and guidelines on accessibility have seldom older people as main target group, rather people with disabilities in general. Older people and people with disabilities are often treated as one group with similar needs in policy and planning; however, older people more often suffer from a combination of different functional limitations (Hovbrandt *et al.*

2007), for example reductions in vision, hearing, and mobility. The ageing process involves per definition gradually declining functional capacity and with increasing age, functional limitations and use of mobility devices becomes more common (Löfqvist *et al.* 2007; Parker *et al.*). There is a large variation of functional capacity within the age group of older people and among persons of the same age. Age is therefore difficult to determine solely in chronological terms and can also be biologically, psychologically, and socially defined (Dehlin and Rundgren 1999).

Today, municipal planners in many countries are faced with the challenges presented by accessibility requirements in areas such as traffic planning. Despite these challenges, accessibility is not always considered in municipalities' planning processes due to conflicting interests and needs of actors involved. These conflicting interests are collisions between interests, values, acts, or alignments; Grönvall (2004) divides conflicting interests into eight conflict areas: lobbying, knowledge, economy, structures, commitment, technique/aesthetics, time, and legislation. Furthermore, conflicts of interest occur on three levels: (1) within the person/group; (2) between persons/groups; and, (3) between the person/group and society. On the societal level, other interests (capacity or safety concerns, aesthetics or building conservation, etc.) may conflict with accessibility interests. On the individual level, the planner may not be entirely convinced of the benefits of one accessibility measure as compared to another interest. For example, an architect may know how to create accessible environments, but this knowledge may not mesh with the architect's aesthetic preferences. Since conflicts of interest in this matter are a barrier, Grönvall suggests that implementing accessibility in municipal planning is made easier by bridging these conflicts.

The international and national requirements that public outdoor environments be accessible by all citizens in 2010 impose new burdens on society, and obviously on municipalities. The overall aim of this study is to investigate how accessibility issues are currently dealt with in municipal planning in order to discover how older people's accessibility needs are met in daily practice. Firstly, this paper presents what the municipalities in Sweden have accomplished so far in order to achieve accessible public outdoor environments in terms of actual efforts as well as awareness and use of existing legislation and governmental directives and recommendations. Secondly, this paper examines how these efforts in implementing accessibility and municipalities' awareness of relevant governmental directives on accessibility relate to municipal employees perceptions of how accessibility issues are treated among municipal politicians and employees.

2 Method

2.1 Study design

A postal questionnaire was sent to all municipalities in Sweden (N=290) in order to investigate how accessibility issues are implemented in municipal planning. Extensive preparations were undertaken when designing the questionnaire (Figure 1). To ensure relevant question formulations, two experts within the field of accessibility research were consulted, which resulted in a draft version of the questionnaire. This draft version was then tested in a pilot survey with two participants who worked with accessibility issues in two of the municipalities, and were therefore likely to represent typical respondents. The pilot test resulted in further reformulations of the questions. In order to maximize the response rate, personally addressed questionnaires were used. A pre-investigation of addresses was therefore carried out by e-mailing each mu-

nicipality and asking for the names of any persons working with accessibility issues in traffic planning. A majority of the questionnaires (258 of 290) were thus mailed directly to the intended respondent; the rest (32) were addressed to "an employee working with accessibility in the field of traffic planning." Each municipality received only one questionnaire, even though there might be more than one potential respondent per municipality. The questionnaire was sent out in November 2004 and was followed by two reminders, one before and one after the year-end holiday break. In addition, a descriptive analysis of a sample of "non-respondents", i.e. municipalities who had not participated in the survey, was carried out by telephone interviews in March 2005. In the telephone interviews a selection of questions from the questionnaire was posed to an employee who worked with accessibility issues in traffic planning.

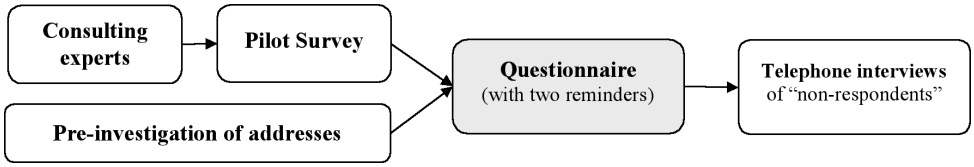

Figure 1: Study design

2.2 Study design

Data Collection

The questionnaire (presented in Appendix 1) was divided into five parts:

Part 1 The first part posed two questions intended to obtain brief background information about the municipality and the respondents.

Part 2 The second part consisted of nine questions focusing on policies, planning documents, and legal directives. Two questions concerned municipal policy and planning documents. In this context, important planning documents were the "accessibility plan," i.e. a municipal plan for implementing accessibility in public outdoor environments, and the "program for handicap politics" or similar policy documents. This second part also contained one question about funding for accessibility issues. Five questions examined the respondents' awareness and use of Swedish governmental directives and recommendations concerning accessibility issues, including governmental directives on accessibility that require municipalities to identify and eliminate so-called "easily removed barriers" in public environments before 2010 (BFS 2003:19 HIN1); other directives and recommendations were the guidelines regarding the accessibility plan in "Accessible city" (SALAR 2004), and the measures and measurements in "Streets for everybody" (SALAR 1994) and "Building away handicaps" (Svensson 2001), and "Traffic for an attractive city," the current general handbook for traffic planning in Sweden (SALAR, SNRA, and Boverket 2004). One final question in the second part asked whether the municipality employed an "accessibility adviser," a profession in which the municipal accessibility adviser is an expert in accessibility issues and aware of the needs of different user groups.

Part 3 The third part of the questionnaire consisted of five questions focusing on implementation issues. One question asked whether actual measures focusing on older road users had

been implemented, and another question examined whether implemented measures had been evaluated. The level of cooperation with local and national organizations representing seniors and handicapped persons, the municipal senior or handicap council, or other interest organizations was examined. The two final questions in the third part were directed at the level of cooperation between employees within the municipality and with other municipalities.

Part 4 The fourth part of the questionnaire consisted of 21 statements concerning respondents' perceptions of how accessibility issues are treated by municipal politicians and employees. Respondents were asked to agree or disagree with the statements on a 4-point rating scale (4=*agree completely*, 3=*agree almost completely*, 2=*agree partly* and 1=*disagree*). The statements concerned how the respondent perceived, for example, the extent of measures implemented for older road users, the level of enthusiasm for accessibility issues, the cooperation and discussion among municipal employees concerning accessibility, pressure from citizens regarding accessibility and the perceived level of knowledge regarding accessibility issues among municipal politicians and employees.

Part 5 The fifth part of the questionnaire offered respondents space for typing in comments.

Sample and response

Of the 290 questionnaires sent to municipalities, 188 were completed and returned by respondents (response rate 65%). The response rate was 68 percent for those municipalities that received a personally addressed questionnaire, compared with 34 percent for those with "unknown" addressees). Table 1 shows characteristics of the respondents and the municipalities.

Data Analysis

The questions in the questionnaire were divided into three categories, and the number of questions in each category was reduced. This was done because the questionnaire consisted of questions that turned out to be overlapping or too peripheral for the aim of this study. The data reduction procedure resulted in three categories, which were then used in the data analysis:

Category 1: Static factors (SF) Five questions from the second and third parts of the original questionnaire examining actual implementation of accessibility in municipal planning. The static factors (SF) concerned the existence of SF1: accessibility plan, SF2: program for handicap politics, SF3: accessibility adviser, SF4: cooperation with interest organizations, and SF5: implemented measures.

Category 2: Directives and recommendations (DR) Five questions from the second part of the original questionnaire examining the awareness and use of Swedish governmental directives and recommendations. The directives and recommendations (DR) were: DR1, BFS 2003:19 HIN1—Easily removed barriers (http://www.boverket.se/(BFS 2003:19 HIN1); DR2, Accessible City (SALAR 2004); DR3, Streets for everybody (SALAR 1994); DR4, Building away handicaps (Svensson 2001); and DR5, Traffic for an attractive city (Svensson 2001).

Table 1: Characteristics of respondents and municipalities (N = 188)

Profession of the respondents	**N**
Accessibility adviser, handicap consultant, etc.	13
Head of Technical Services or Urban Planning Departments	55
Head of other department	4
Employee at Technical Services or Urban Planning Departments (traffic engineer, planner, etc.)	158
Employee at other department	11
Other profession/unknown	6
Respondents from each municipality	**N (%)**
1 person	124 (66 %)
2 persons	57 (30 %)
3 persons	1 (0.5 %)
4 persons	1 (0.5 %)
Unknown	5 (3 %)
Inhabitants in the municipalities	**N (representation in % of that group in Sweden as a whole)**
<24 999	106 (56 %)
25,000–49,999	46 (82 %)
50,000–99,999	24 (80 %)
100,000–249,999	9 (100 %)
>250,000	3 (100%)

Category 3: Statements of how accessibility is treated in the municipality (S) All of the 21 statements from the fourth part of the original questionnaire for the respondents to agree (or disagree) with. Factor analysis (Varimax, Eigen values>1) was applied to categorize the 21 statements into components, which resulted in five statement components (Sc). The statement components were Sc1: Implementation, discussion and cooperation, Sc2: Attention and quality, Sc3: Pressure from citizens, Sc4: Perceived level of knowledge, and Sc5: Conflicting interests. Rotated component matrix is presented in Appendix 2.

In order to present what the municipalities had accomplished so far, descriptive data (frequencies and percentages) were calculated. Then, significance analyses were conducted in order to examine how actual efforts in implementing accessibility (Category 1), and awareness within that process (Category 2), related to respondents' agreement with statements of how accessibility issues are treated among municipal politicians and employees (Category 3). The relationships between Categories 1 and 3, and between Categories 2 and 3, were examined using the Mann-Whitney U test. The significance analyses of relationships with Category 3 were conducted both for the 21 statements (S1–S21) and for the five statement components (Sc1–Sc5). The significance level of $p \leq 0.05$ was used. The Mann-Whitney U test was chosen because it is a nonparametric alternative to the t-test requiring an ordinal level of measurement. In order to

illustrate the magnitudes of the significances, mean values of agreement with statements were presented even though equally spaced intervals on the scale cannot be fully assumed.

Responses from all three question categories were used to create a quantitative ranking of the level of implemented accessibility in municipal planning of each municipality. Responses were classified as either positive or negative, where positive answers were defined as: static factors (SF) existed (for Category 1), directives and recommendations (DR) were used (for Category 2), and respondents agreed completely or almost completely with the statements (S) (for Category 3). Some of the statements, for example S14, were exceptions due to their negative formulations, and therefore a positive answer for these statements was defined as disagreement by the respondent. Furthermore, because it was necessary to classify each statement as having either a positive or a negative answer, the index for the statements included only 12 of the 21 statements. Therefore the 12 statements concerning implementation, discussion and cooperation (Sc1) and attention and quality (Sc2) were included. By summarizing the number of positive answers, each municipality was given three separate indices, which indicated the level of implemented accessibility in the municipality within each one of the three categories: static factors (SF), directives/recommendations (DR), and statements (S). The indices for the static factors and for the directives and recommendations each included five questions, and the maximum value of the indices was therefore five for these two categories. The indices for the statements included 12 of the statements, and the maximum value of the index was therefore 12 for this category. A high value of the indices indicated a high accessibility standard in the municipality and vice versa.

3 Results

3.1 Accomplished level of implemented accessibility

The results showed a large variation in the level of accessibility implemented in municipal planning. Table 2 shows that 16 percent of the municipalities had an accessibility plan (including those municipalities where the work of creating an accessibility plan was still in progress) and that 18 percent employed an accessibility adviser. A majority of the municipalities (91%) cooperated with interest organizations, such as the municipal senior or handicap council or other organizations. Approximately half of the municipalities (55%) had implemented measures to improve accessibility focusing on older road users; however, the types of measures implemented ranged from eliminating relevant physical barriers in public outdoor environments to handing out reflectors in the city square.

Table 3 shows that 57 percent of the municipalities were aware of and used the Swedish governmental directives on accessibility (BFS 2003:13 HIN1), which state that all "easily removed barriers" should be eliminated by the year 2010. Fifteen percent of the municipalities were not aware of these directives at all. Furthermore, half of the municipalities (50%) used the guidelines for how to make an inventory of accessibility in built environments and how to prepare an accessibility plan ("Accessible city"). The measures and measurements in "Streets for everybody" and "Building away handicaps" were used by 50 and 39 percent of the municipalities respectively.

Results regarding statements about how accessibility issues are treated by municipal politicians and employees varied (Table 4). Half of the respondents (51%) claimed that their municipalities carried out effective and purposeful work to improve accessibility (S1). Issues concern-

Table 2: Static factors (SF): Frequencies and percentages

Static factor (SF)		Yes	No
SF1	Accessibility plan	29 (16%) incl. in progress	153 (84%)
SF2	Program for handicap politics (or similar)	51 (27%)	Other policies: 95 (52%); No policies: 87 (48%)
SF3	Accessibility adviser	32 (18%)	149 (82%)
SF4	Cooperation with organizations	169 (91%)	17 (9%)
SF5	Implemented measures	99 (55%)	82 (45%)

Table 3: Directives and recommendations (DR): Frequencies and percentages

	Directives/recommendations (DR)	Use	Do not use	
		Knows about and uses	Knows about	Doesn't know about
DR1	"Easily removed barriers" (BFS 2003:19 HIN1)	100 (57 %)	49 (28 %)	26 (15 %)
DR2	"Accessible city" (SALAR 2004)	90 (50 %)	78 (43 %)	12 (7 %)
DR3	"Streets for everybody" (SALAR 1994)	88 (50 %)	65 (37 %)	22 (13 %)
DR4	"Building away handicaps" (Svensson 2001)	66 (39 %)	48 (28 %)	55 (33 %)
DR5	"Traffic for an attractive city" (SALAR, SNRA, and Boverket 2004)	85 (47 %)	77 (43 %)	18 (10 %)

ing accessibility for older road users were generally on the agenda of the employees at different levels (S7, S8), albeit to a smaller extent on the political agenda (S4, S17). In a minority of the municipalities (23%), respondents reported that efforts to increase accessibility were receiving sufficient funding compared with other issues (S5), and in only 28 percent of the municipalities could projects concerning accessibility for older road users be carried out to a sufficient extent and produce results of satisfactory quality (S6). In a majority of the municipalities, a need for improved knowledge concerning accessibility and older road users among the municipal politicians (64%) and employees (55%) was reported (S19, S20).

Table 4: Statements (S): Frequencies and percentages

	Statements (S)	Agree completely or almost completely	Agree partly	Disagree
Implementation, discussion and cooperation (Sc1):				
S1	"Extensive and purposeful work is carried out in our municipality in order to improve accessibility for older road users."	92 (51 %)	78 (43 %)	10 (6 %)
S2	"Aspects concerning older people are part of the daily traffic safety work."	107 (59 %)	66 (36 %)	8 (5 %)

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	Statements (S)	Agree completely or almost completely	Agree partly	Disagree
S3	"Aspects concerning older people are part of the daily accessibility work."	103 (58 %)	65 (36 %)	11 (6 %)
S9	"I often cooperate with other employees in order to carry out projects concerning accessibility and older road users."	94 (53 %)	62 (35 %)	21 (12 %)
S14	"It is difficult for the employee to know who is responsible for accessibility issues."	52 (29 %)	56 (32 %)	68 (39 %)
S17	"Issues concerning older road users are considered in the political agenda of the municipality."	46 (28 %)	73 (45 %)	45 (27 %)
S18	"There is a discussion between employees about issues concerning accessibility and older road users."	78 (43 %)	79 (44 %)	24 (13 %)
Attention and quality (Sc2):				
S4	"Projects concerning accessibility and older road users receive attention from the municipal politicians"	98 (57 %)	66 (39 %)	7 (4 %)
S5	"Efforts concerning accessibility and older road users are receiving sufficient funding in comparison with other issues."	38 (23 %)	85 (50 %)	46 (27 %)
S6	"As a planner, I feel that I can carry out projects concerning accessibility and older road users to a sufficient extent and of satisfactory quality."	49 (28 %)	84 (47 %)	44 (25 %)
S7	"My colleagues pay attention to me when it comes to issues concerning older road users."	105 (58 %)	70 (39 %)	5 (3 %)
S8	"I get attention from my boss when it comes to issues concerning older road users."	115 (65 %)	57 (33 %)	4 (2 %)
Pressure from citizens (Sc3):				
S10	"Older people bring considerable pressure through the municipal handicap council (or similar) regarding accessibility issues for older road users."	95 (53 %)	62 (35 %)	22 (12 %)
S11	"The pressure group of older people get attention of their opinions (if such pressure exists)"	68 (43 %)	81 (51 %)	10 (6 %)
S12	"Citizens (individual older people, relatives or care givers) bring considerable pressure regarding accessibility issues for older road users."	62 (35 %)	95 (53 %)	22 (12 %)
S13	"The pressure group of citizens get attention of their opinions (if such pressure exists)"	51 (31 %)	108 (65 %)	7 (4 %)
Perceived level of knowledge (Sc4):				
S19	"There is a need for improved knowledge among the municipal politicians regarding accessibility issues and older road users."	114 (64 %)	56 (32 %)	8 (4 %)

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	Statements (S)	Agree completely or almost completely	Agree partly	Disagree
S20	"There is a need for improved knowledge among the employees of the municipality regarding accessibility issues and older road users."	99 (55 %)	75 (41 %)	7 (4 %)
S21	"There is a need for improved knowledge among the citizens in the municipality regarding accessibility issues and older road users."	125 (70 %)	47 (27 %)	6 (3 %)
Conflicting interests (Sc5):				
S15	"Efforts for older road users often lead to conflicts with the wishes of other road users."	31 (17 %)	87 (48 %)	62 (35 %)
S16	"Efforts for older road users often lead to conflicts between employees (or between departments) in the municipality."	8 (5 %)	45 (25 %)	124 (70 %)

The quantitative ranking of the level of implemented accessibility in municipal planning gave each municipality separate indices for static factors (SF), directives and recommendations (DR), and statements (S) concerning how accessibility issues are treated by municipal politicians and employees. Figure 2 shows the distribution of municipalities according to these indices. Few municipalities had reached the highest indices; only one municipality was found to have all of the five static factors, 17 of the municipalities used all five directives and recommendations, and only one respondent agreed with all 12 statements included in the index calculation. In other words, few respondents answered positively to all questions included in the indices. In fact, there were more municipalities in which respondents answered negatively to all questions, resulting in the lowest indices for each category (9, 31, and 15 respectively).

3.2 Relationships between static factors and statements

The static factors (SF) showed a statistically significant relationship with several of the 21 statements (S) as well as with several of the five statement components (Sc). The statistically significant relationships are presented in Table 5 (statements) and Table 6 (statement components). (See Appendices 3 and 4 for all relationships). Respondents in municipalities that had an accessibility plan (SF1), employed an accessibility adviser (SF3), cooperated with interest organisations (SF4), or had implemented measures to improve accessibility (SF5) agreed to a greater extent with (responded more positively to) the 21 statements concerning how accessibility issues are treated by municipal politicians and employees. However, having a program for handicap politics (SF2) showed only one statistically significant relationship and that was with statement S10. Static factors SF1, SF3, SF4, and SF5 related to statements S1, S17, and S18, all of which concerned implementation, discussion, and cooperation (Sc1). or example, related the factor concerning the existence (SF1) to the discussion among employees in the municipality concerning accessibility issues (S18). Furthermore, municipalities that employed an accessibility adviser (SF3) were more likely to include issues concerning older people in their day-

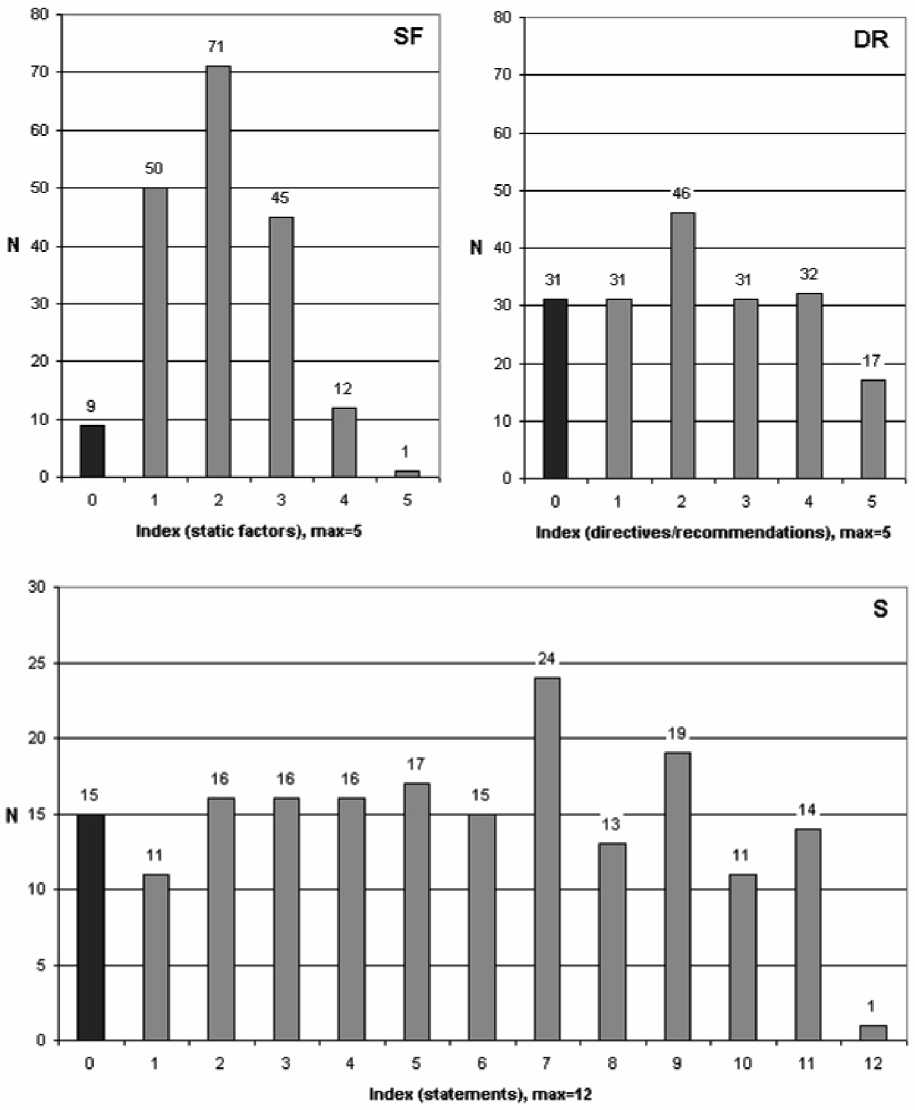

Figure 2: Distribution of municipalities by the indices concerning static factors, directives and recommendations, and statements of how accessibility is treated in the municipality.

to-day accessibility work (S3) than those that did not have an adviser. The results also showed that respondents in municipalities that cooperated with interest organisations (SF4) answered that they worked actively and effectively towards their goals concerning accessibility (S1). The fact that municipalities had implemented measures to improve accessibility for older road users (SF5) related to statements concerning implementation, discussion and cooperation (Sc1), and also to statements concerning conflicting interests (Sc5), especially the statement "Efforts for older road users often lead to conflicts with the wishes of other road users" (S15).

Table 5: Statistically significant relationships between static factors (SF) and statements (S): mean values (yes/no) and significance levels (p) from the Mann-Whitney U tests, $p \leq 0.05$ (see Appendix 3 for all relationships).

	SF1: Accessibility plan			SF2: Program for handicap politics			SF3: Accessibility adviser			SF4: Interest organizations			SF5: Implemented measures		
	Y	N	p	Y	N	p	Y	N	p	Y	N	p	Y	N	p
S1	3	2.6	0.024							2.7	1.8	0	2.7	2.4	0.027
S3	3.1	2.7	0.028				3.3	2.7	0.002						
S7	3	2.7	0.023							2.8	2.3	0.022			
S8	3.2	2.8	0.034												
S9	3	2.5	0.008							2.6	1.9	0.006	2.7	2.4	0.011
S10				2.9	2.5	0.02				2.7	2	0.011			
S11										2.5	2	0.022			
S12										2.4	1.9	0.037			
S13										2.3	1.9	0.02			
S15													2	1.7	0.044
S17	2.5	2	0.018							2.1	1.6	0.028	2.2	1.9	0.021
S18	3	2.3	0				2.8	2.4	0.03	2.5	1.9	0.007	2.6	2.2	0.004

Table 6: Statistically significant relationships between static factors (SF) and statement components (Sc): mean values (yes/no) and significance levels (p) from the Mann-Whitney U tests, $p \leq 0.05$ (see Appendix 4 for all relationships).

	SF1: Accessibility plan			SF2: Program for handicap politics			SF3: Accessibility adviser			SF4: Interest organizations			SF5: Implemented measures		
	Y	N	p	Y	N	p	Y	N	p	Y	N	p	Y	N	p
Sc1	2.9	2.6	0.008				2.9	2.6	0.014	2.7	2.1	0.001	2.7	2.5	0.006
Sc3										2.5	1.9	0.002			
Sc5	3.5	3.3	0.049										3.3	3.5	0.035

3.3 Relationships between directives/recommendations and statements

The use of governmental directives and recommendations (DR) also showed a statistically significant relationship with several of the 21 statements (S) as well as with several of the five statement components (Sc). The statistically significant relationships are presented in Table 7

(statements) and Table 8 (statement components). (See Appendices 5 and 6 for all relationships.) Respondents in municipalities that used these DRs agreed to a higher extent with (responded more positively to) the 21 statements concerning how accessibility issues are treated by municipal politicians and employees than those in municipalities that did not use the DRs. Municipalities that used documents on the Swedish governmental directives on accessibility "Easily removed barriers" (DR1) were more likely to agree with statements concerning implementation, discussion and cooperation (Sc1), such as "Aspects concerning older people are part of the daily accessibility work" (S3) and "I often cooperate with other employees in order to carry out projects concerning accessibility and older road users" (S9). There was also a relationship between DR1 and statements concerning attention and quality (Sc2), such as "My colleagues pay attention to me when it comes to issues concerning older road users" (S7) and "I get attention from my boss when it comes to issues concerning older road users" (S8). The use of the guidelines in "Accessible city" (DR2) and of the general handbook for traffic planning (DR5) also related to statements concerning implementation, discussion and cooperation (Sc1). However, the use of the measures and measurements, especially "Streets for everybody" (DR3), showed fewer statistically significant relationships with the statements.

Table 7: Statistically significant relationships between use of directives and recommendations (DR) and statements (S): mean values (use/do not use) and significance levels (p) from the Mann-Whitney U tests, $p \leq 0.05$ (see Appendix 5 for all relationships).

	DR1: Accessibility legislation			DR2: Accessible city			DR3: Streets for everybody			DR4: Building away handicaps			DR5: Traffic for an attractive city		
	Y	N	p	Y	N	p	Y	N	p	Y	N	p	Y	N	p
S1	2.8	2.4	0.007	2.9	2.4	0	2.7	2.5	0.033	2.8	2.5	0.006	2.8	2.5	0.012
S2	2.9	2.7	0.127	3	2.6	0.001	2.9	2.6	0.043				3	2.5	0
S3	3.1	2.4	0	3.1	2.5	0				3.1	2.6	0.001	3	2.6	0.006
S4													2.8	2.6	0.031
S5	2.1	1.8	0.016												
S7	2.9	2.5	0.004										2.9	2.6	0.026
S8	3.1	2.6	0	3	2.8	0.042				3	2.8	0.042	3.1	2.7	0.01
S9	2.8	2.3	0.001	2.8	2.3	0.002				2.8	2.5	0.038	2.7	2.4	0.021
S11													2.5	2.3	0.019
S13				2.4	2.2	0.024									
S17				2.3	1.9	0.006									
S18	2.6	2.3	0.037	2.7	2.2	0.001				2.7	2.3	0.015	2.6	2.3	0.029

Table 8: Statistically significant relationships between use of directives and recommendations (DR) and statement components (Sc): mean values (use/do not use) and significance levels (p) from the Mann-Whitney U tests, $p \leq 0.05$ (see Appendix 6 for all relationships).

	DR1: Accessibility legislation			DR2: Accessible city			DR3: Streets for everybody			DR4: Building away handicaps			DR5: Traffic for an attractive city		
	Y	N	p	Y	N	p	Y	N	p	Y	N	p	Y	N	p
Sc1	2.8	2.4	0.001	2.8	2.4	0	2.7	2.5	0.106	2.8	2.5	0.008	2.8	2.5	0.002
Sc2	2.6	2.3	0.001										2.6	2.4	0.004

4 Discussion

This paper, examining how accessibility issues are dealt with in Swedish municipalities, shows a large variation in the level of accessibility implemented in municipal planning. Several municipalities have made extensive efforts within the field, while others have accomplished less.

The existence of a number of static factors (existences of accessibility plan, program for handicap politics, accessibility adviser, cooperation with interest organizations and implemented measures) examined in this paper, as well as the use of governmental directives and recommendations relevant for accessibility issues, relate to statements concerning how accessibility issues are treated by municipal politicians and employees as perceived by the respondents. Without taking any position concerning the direction of the relationships, this paper shows that municipalities that have an accessibility plan, for example, treat accessibility issues more positively than municipalities that do not have a plan, which might mean that well-defined planning and policy documents can improve the process of implementing accessibility in municipal planning. Furthermore, employing a municipal accessibility adviser and cooperating with interest organizations within the field also related positively to how accessibility issues are treated. One of the tasks of the accessibility adviser is to take all disabilities into account in the planning process in order to highlight as many aspects of accessibility as possible and older pedestrians are only one of many groups within his or her sphere of interest.

This paper only shows that the fact that a municipality has certain characteristics (for example, an accessibility plan) has a statistically significant relationship with statements concerning how accessibility issues are treated in the municipality. It is nonetheless possible that municipal politicians and employees in municipalities that have (for example) accessibility plans were more positive toward accessibility isssues from the very beginning, i.e. even before any policy decisions were made. This does not necessarily mean that it is the policy decisions that impact how accessibility issues are treated among municipal politicians and employees. It could be the other way around—i.e., that the treatment affects the policy decisions; it is also possible that there is an interaction between the factors.

The three indices presented in this paper indicate the level of implemented accessibility in municipal planning and thus the accessibility standard in the municipalities surveyed. The indices show that some municipalities answered positively to all the questions included in the indices, while some answered negatively to all of them. However, a majority fell in between. This finding illustrates that variation exists within the implementation process, and also that the actual situation for older people varies from place to place. It would be interesting to conduct a

follow-up survey in order to examine developments in the level of implemented accessibility in municipal planning. Finding more municipalities with higher scores on the three indices would indicate progress within the implementation process. Such a longitudinal approach could also make it possible to gain a better understanding of the relationship between actual efforts in this implementation process and how accessibility issues are treated in the municipality.

Even though a number of municipalities have made great efforts within the field, this paper essentially indicates that there is still much to be done before the target stated in Swedish legislation, directives and guidelines on accessibility, is achieved. The study was conducted in 2004, and the level of implementation is most likely higher today. There is reason to believe that the legislative developments *per se* have increased the debate on accessibility issues, suggesting that the municipal agenda may have changed since 2004. Whether the actual application of the surveyed directives and recommendations has also progressed is difficult to determine, but is an interesting issue for further study. The question of whether municipalities will manage to eliminate all "easily removed barriers" before 2010 also arises, as the implementation process seems to be slow, especially in the beginning. Full accessibility in 2010 might have been a realistic goal if the process of implementing accessibility in municipal planning had started actively and efficiently when the legislation came into force, but from the results of this study it is a goal that seems very unlikely to be achieved. It is, however, important to state that even if municipalities do manage to eliminate all "easily removed barriers," several types of barriers will remain, as not all barriers reported by older people in previous literature (Carlsson 2004; Lavery *et al.* 1996; Ståhl *et al.* 2008) are addressed by the directives. It should be remembered that the Swedish legislation, directive, and guidelines on accessibility consider people with disabilities in general and that this paper focuses more narrowly on older people. Even so, examples of issues not included are barriers created by snowy or icy conditions, lack of benches where older people can rest, and problems with cyclists and moped riders in areas intended for use by pedestrians only. For international audiences, the findings of this study may be of interest in the context of the European agenda, and as a basis for the exchange of ideas within the field. For example, this study points out the importance of improving knowledge and awareness in society of accessibility issues in order to improve the implementation of accessibility in the planning process. The results of this study concerning benefits of having an accessibility adviser who is able to bring forward accessibility issues on the day-to-day agenda may also be of interest to other countries.

While the process of implementing accessibility in municipal planning has obviously just begun, and even though a majority of Swedish municipalities evince a positive attitude toward accessibility issues, the question of why accessibility issues are not always considered should be addressed. Insufficient funding is not the only explanation for neglecting accessibility in the daily work of traffic planning, and Grönvall (2004) emphasises effects of conflicting needs and interests among actors involved. There may also be a lack of consistent knowledge within the field, suggesting a need for more research, but also for methods to ensure that existing knowledge is spread to those it concerns. In addition, even when municipal politicians and employees acquire sufficient knowledge, a lack of understanding of accessibility issues among construction workers and foremen (who in fact are doing the actual implementation) often leads to poorly designed and constructed solutions. On an individual level, there may also be a lack of conviction regarding the benefits of improving accessibility in comparison with other interests. There are obviously several conflicts of interest involved, and the fact that many of these conflicts oc-

cur at the same time demands great enthusiasm and commitment on the part of the people working with accessibility (Grönvall 2004).

Methodologically, the instrument used in this study is, to our knowledge, a first attempt to examine the level of implemented accessibility in municipal planning. The findings indicate that the instrument is based on factors that are valid for analysing relevant aspects of the level of implemented accessibility in municipal planning, and thus for indicating the accessibility standard on national and municipal levels. The instrument presented in this paper was created according to Swedish conditions; however, it could easily be adapted to the specific conditions in other countries. Furthermore, the index method presented herein creates a quantitative ranking of static factors, directives and recommendations, and statements concerning how accessibility issues are treated by municipal politicians and employees, and is one way to analyse the data gathered by the instrument. Both the instrument and the index method have the potential to be further developed in order to produce an evaluation method that can be used on both the municipal and the national level. Hence, after some improvements, the method has the potential to be useful in annual governmental evaluations of the accessibility process. One way of improving the instrument and the index method might be to conduct focus group interviews with experts within the field to collect information on the importance of each question within the three indices. It might also be preferable to present a summarized index including all three categories as well; however, this was not done within this paper due to difficulties in comparability between the three categories. Furthermore, it should be noted that this study does not claim to investigate actual accessibility conditions in the municipalities; the survey examines indirect indicators of the process of implementing accessibility in municipal planning. After further developments of the index method, a comparison of actual accessibility conditions in a sample of municipalities and the result of the index method could be an interesting methodological step.

The selection of data collection method can be discussed if the index method is to be used in an annual governmental evaluation of the accessibility process. Postal surveys are generally cost-effective, but have certain disadvantages, including ensuring that the survey instruments reach intended respondents, potentially low response rates, and internal drop-outs (Ejlertsson 1996). In this study, the preparations included a pre-investigation of the names and addresses of the respondents in each municipality in order to send the questionnaire directly to the person or persons responsible for accessibility issues. This effort resulted in a higher response rate for the personally addressed questionnaires as compared to those with "unknown" addressees. The analysis of "non-respondents," i.e. municipalities that did not participate in this survey, shows that the "non-respondents" have accomplished less in comparison with municipalities that participated. Thus, if all 290 municipalities had been taken into consideration, the level of implemented accessibility in municipal planning would most likely have been found to be lower than presented in this paper. This illustrates the importance of reaching as many of the intended respondents as possible. The pilot testing of the draft version of the questionnaire helped in asking relevant questions and in minimising the number of questions. In further studies, telephone interviewing could be tested as a data collection method.

The respondents in this study are individuals, and their answers therefore reflect their personal opinions of the implementation of accessibility in municipal planning. In this context, it should be noted that the treatment of accessibility issues by municipal politicians and employees (the statements) were examined as perceived by the respondents. A full investigation of the

treatment of accessibility issues among all municipal politicians and employees was beyond the scope of this study. However, larger municipalities may have more than one employee working with accessibility issues and, consequently, more than one person could take part in filling in the questionnaire. This was the case in 32 percent of the municipalities surveyed, which might have decreased the impact of the individual employee on the answers.

5 Conclusions

Accessibility has become increasingly important in Sweden since legislation, directives and guidelines on accessibility came into force. Even though this study shows that there is still much to do to in order to realize a society accessible to all citizens, a majority of the Swedish municipalities are positive toward accessibility issues. After further refinements, the index method presented in this paper could be used by governments in annual evaluations of the process of implementing accessibility on municipal and national levels. The findings thus far indicate a large variation in the level of consideration given to accessibility in the planning process at the municipal level. Municipalities that have planning documents, e.g. accessibility plans, treat accessibility issues more positively. This positive relationship with how accessibility is treated is also found with factors such as municipalities having an accessibility adviser employed, municipalities cooperating with senior organisations, and municipalities being aware of and using governmental directives and recommendations relevant for accessibility issues. Considering the three indices presented in this paper, municipalities reporting high accessibility standards share the following characteristics:

1. Political decisions exist concerning accessibility and how accessibility issues should be treated in daily practise, including relevant planning documents;
2. An accessibility adviser is employed and is a natural part of the daily accessibility work, and there is cooperation with interest organisations;
3. Accessibility is considered and treated as an important issue among politicians and employees, and sufficient knowledge exists;
4. Measures to improve accessibility are implemented, i.e. inventory work focussing on barriers in the public outdoor environment is carried out, and barriers are eliminated according to Swedish governmental directives on accessibility and other relevant directives and recommendations.

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Appendix 1 Questionnaire (full version)

PART 1: About you and the municipality

1

Person 1

Name _____

Profession, position and responsibility

_____
_____
_____

Telephone _____ - _____

E-mail _____

Person 2 (if more than one person participates)

Name _____

Profession, position and responsibility

_____
_____
_____

Telephone _____ - _____

E-mail _____

More than two participants? Please, write on a separate paper.

2

Municipality _____

Number of inhabitants in the municipality:

_____ persons, total population

_____ persons, older persons (65 years and above)

Largest city _____

Number of inhabitants in the largest city:

_____ persons, total population

_____ persons, older persons (65 years and above)

PART 2: Policy documents and funding

3

Is there an accessibility plan in the municipality?

☐1 Yes
☐2 No

Please, send policy documents by mail or e-mail.

If yes, when is the accessibility plan dated?

Title:	Date:	Attached:
_____	_____-_____-_____	☐1 Mail ☐2 E-mail

If yes, how is the accessibility plan used in the daily activities?

_____
_____
_____
_____
_____

4

Are there any other planning or policy documents except for the accessibility plan that are relevant for planning for older road users?

☐1 Yes
☐2 No

If yes, when are these documents dated?

Title:	Date:	Attached:
_____	_____-_____-_____	☐1 Mail ☐2 E-mail
_____	_____-_____-_____	☐1 Mail ☐2 E-mail
_____	_____-_____-_____	☐1 Mail ☐2 E-mail
_____	_____-_____-_____	☐1 Mail ☐2 E-mail
_____	_____-_____-_____	☐1 Mail ☐2 E-mail

If yes, how are these documents used in the daily activities?

_____
_____
_____
_____
_____

5

Which of the following directives and recommendations are used in your daily work?

	Doesn't know about	Knows about, but do not use	Knows about and uses
[1] Accessible city - advices on goals, strategies and work procedures when the municipality establishes an accessibility plan for traffic networks (SALAR)	☐1	☐2	☐3
[2] Streets for everybody (SALAR)	☐1	☐2	☐3
[3] Regulations and general recommendations issued by the Swedish National Board of Housing, Building and Planning (Boverket) on the removal of easily eliminated obstacles to and in premises to which the public has access and in public spaces (BFS 2003:19 HIN1)	☐1	☐2	☐3
[4] Traffic for an attractive city (SALAR et al.)	☐1	☐2	☐3
[5] Building away handicaps (Svensk Byggtjänst)	☐1	☐2	☐3
[6] Other directive/recommendation: _____	☐1	☐2	☐3

6

Is there an accessibility adviser (or similar) employed in the municipality?

☐1 Yes, full-time at the municipality
☐2 Yes, part-time at the municipality
☐3 Yes, as consultant
☐4 No

If no, who have the responsibility for accessibility issues at the department?

_____
_____
_____

7

How large part of the budget at the department in an average year du you assume that measures for older road users receive?

_____ % of the budget for streets and roads
_____ % of the budget for walk- and bicycle roads
_____ % of the budget for public transport

PART 3: Implementation

8

Are there any actual projects going on (or have been implemented or is planned) in the municipality with a focus on older peoples' accessibility and safety in traffic?

☐1 Yes
☐2 No

If yes, please give examples of such projects.

_____
_____
_____
_____
_____

Was the project evaluated?

☐1 Yes
☐2 No

Please, send reports or brochures from projects by mail or e-mail!

If yes, please comment how the project turned out.

_____
_____
_____
_____
_____

9

Do you cooperate with other employees within or outside the department in issues concerning older peoples' accessibility and safety in traffic?

☐1 Yes, always
☐2 Yes, often
☐3 Yes, sometimes
☐4 No, never

If yes, please give examples of such employees?

_____
_____
_____

10 Do you contact interest organisations, for example senior organisations, in projects concerning older peoples' accessibility and safety in traffic?

- ☐1 Yes, always
- ☐2 Yes, often
- ☐3 Yes, sometimes
- ☐4 No, never
- ☐5 No, but I am planning to

If yes, please give examples of such organisations.

_____
_____
_____

11 Du you cooperate with other municipalities in issues concerning older peoples' accessibility and safety in traffic?

- ☐1 Yes, always
- ☐2 Yes, often
- ☐3 Yes, sometimes
- ☐4 No, never
- ☐5 No, but I am planning to

If yes, please give examples of such cooperation.

_____
_____
_____

PART 4: Your opinion on the attitudes among municipal politicians, employees and citizens toward older peoples' accessibility and safety in traffic

12	Please, read the following statements and state your agreement. After reading a statement, try to give your immediate answer.	Disagree	Agree partly	Agree almost completely	Agree completely
1	Extensive and purposeful work is carried out in our municipality in order to improve accessibility for older road users.	☐1	☐2	☐3	☐4
2	Aspects concerning older people are part of the daily traffic safety work.	☐1	☐2	☐3	☐4
3	Aspects concerning older people are part of the daily accessibility work.	☐1	☐2	☐3	☐4
4	Projects concerning accessibility and older road users receive attention from the municipal politicians.	☐1	☐2	☐3	☐4
5	Efforts concerning accessibility and older road users are receiving sufficient funding in comparison with other issues.	☐1	☐2	☐3	☐4
6	As a planner, I feel that I can carry out projects concerning accessibility and older road users to a sufficient extent and of satisfactory quality.	☐1	☐2	☐3	☐4
7	My colleagues pay attention to me when it comes to issues concerning older road users.	☐1	☐2	☐3	☐4
8	I get attention from my boss when it comes to issues concerning older road users.	☐1	☐2	☐3	☐4
9	I often cooperate with other employees in order to carry out projects concerning accessibility and older road users.	☐1	☐2	☐3	☐4
10	Older people bring considerable pressure through the municipal handicap council (or similar) regarding accessibility issues for older road users.	☐1	☐2	☐3	☐4
11	The pressure group of older people gets attention of their opinions (if such pressure exists).	☐1	☐2	☐3	☐4
12	Citizens (individual older people, relatives or care giver) bring considerable pressure regarding accessibility issues for older road users.	☐1	☐2	☐3	☐4
13	The pressure group of citizens gets attention of their opinions (if such pressure exists).	☐1	☐2	☐3	☐4
14	It is difficult for the employee to know who is responsible for accessibility issues.	☐1	☐2	☐3	☐4

15	Efforts for older road users often lead to conflicts with the wishes of other road users.	☐1	☐2	☐3	☐4
16	Efforts for older road users often lead to conflicts between employees (or between departments) at the municipality.	☐1	☐2	☐3	☐4
17	Issues concerning older road users are considered in the political agenda of the municipality.	☐1	☐2	☐3	☐4
18	There is a discussion between employees about issues concerning accessibility and older road users.	☐1	☐2	☐3	☐4
19	There is a need for improved knowledge among the municipal politicians regarding accessibility issues and older road users.	☐1	☐2	☐3	☐4
20	There is a need for improved knowledge among the employees of the municipality regarding accessibility issues and older road users.	☐1	☐2	☐3	☐4
21	There is a need for improved knowledge among the citizens in the municipality regarding accessibility issues and older road users.	☐1	☐2	☐3	☐4

Comments:

_____
_____
_____
_____
_____
_____
_____
_____
_____

If there are any statements that you have problems answering, write "don't know" in the margin".

PART 5: Thoughts about efforts

13 Do you consider that the municipality could do more for older road users?

- ☐1 Yes
- ☐2 No

If yes, in which areas?

_____
_____
_____
_____

Do you consider that you self could do more for older road users?

- ☐1 Yes
- ☐2 No

If yes, in which areas?

_____
_____
_____
_____

PART 6: Comments

14 If you want to share more aspects concerning older road users, please feel free to comment here!

_____
_____
_____
_____
_____
_____
_____
_____

Not enough space? Please, continue on a separate paper.

Thank you for your participation!

Appendix 2 Rotated component matrix from the factor analysis (Varimax)

Statements (S)		Statement components (Sc)					Name of statement components
		Sc1	Sc2	Sc3	Sc4	Sc5	
S3	Aspects concerning older people are part of the daily accessibility work.	0.752	0.373	0.037	-0.071	-0.032	1: Implementation, discussion and cooperation
S2	Aspects concerning older people are part of the daily traffic safety work.	0.718	0.371	0.121	-0.037	-0.050	1: Implementation, discussion and cooperation
S18	There is a discussion between employees about issues concerning accessibility and older road users.	0.702	0.222	0.282	0.143	-0.085	1: Implementation, discussion and cooperation
S9	I often cooperate with other employees in order to carry out projects concerning accessibility and older road users.	0.591	0.287	0.395	0.287	0.114	1: Implementation, discussion and cooperation
S1	Extensive and purposeful work is carried out in our municipality in order to improve accessibility for older road users.	0.549	0.487	0.250	0.047	-0.130	1: Implementation, discussion and cooperation
S14R	It is difficult for the employee to know who is responsible for accessibility issues.	0.534	-0.187	0.069	-0.264	0.533	1: Implementation, discussion and cooperation
S17	Issues concerning older road users are considered in the political agenda of the municipality.	0.459	0.361	0.445	0.042	-0.046	1: Implementation, discussion and cooperation
S7	My colleagues pay attention to me when it comes to issues concerning older road users.	0.244	0.688	0.113	0.029	0.006	2: Attention and quality
S8	I get attention from my boss when it comes to issues concerning older road users.	0.392	0.655	0.085	0.035	0.123	2: Attention and quality
S4	Projects concerning accessibility and older road users receive attention from the municipal politicians	0.210	0.645	0.184	-0.127	-0.170	2: Attention and quality
S5	Efforts concerning accessibility and older road users are receiving sufficient funding in comparison with other issues.	0.156	0.626	0.232	-0.191	0.088	2: Attention and quality
S6	As a planner, I feel that I can carry out projects concerning accessibility and older road users to a sufficient extent and of satisfactory quality.	0.006	0.548	0.351	-0.135	0.266	2: Attention and quality
S10	Older people bring considerable pressure through the municipal handicap council (or similar) regarding accessibility issues for older road users.	0.069	0.151	0.787	0.022	0.082	3: Pressure from citizens
S13	The pressure group of citizens get attention or their opinions (if such pressure exist)	0.173	0.253	0.666	-0.061	-0.122	3: Pressure from citizens
S11	The pressure group of older people get attention or their opinions (if such pressure exist)	0.230	0.399	0.658	-0.086	-0.009	3: Pressure from citizens
S12	Citizens (individual older people, relatives or care givers) bring considerable pressure regarding accessibility issues for older road users.	0.409	-0.116	0.487	-0.057	-0.346	3: Pressure from citizens
S19	There is a need for improved knowledge among the municipal politicians regarding accessibility issues and older road users.	0.004	-0.119	-0.023	0.886	-0.069	4: Perceived level of knowledge
S20	There is a need for improved knowledge among the employees of the municipality regarding accessibility issues and older road users.	-0.131	-0.031	-0.010	0.824	-0.202	4: Perceived level of knowledge
S21	There is a need for improved knowledge among the citizens in the municipality regarding accessibility issues and older road users.	0.202	-0.086	-0.049	0.791	-0.124	4: Perceived level of knowledge
S15R	Efforts for older road users often lead to conflicts with the wishes of other road users.	-0.195	-0.039	-0.039	-0.154	0.745	5: Conflicting interest
S16R	Efforts for older road users often lead to conflicts between employees (or between departments) in the municipality.	0.046	0.131	-0.036	-0.123	0.693	5: Conflicting interest

Note: For the statements S14R, S15R, and S16R, R = the negative response scale was converted to a positive (4=1, 3=2, etc.).

Appendix 3 Relationships between static factors (SF) and statements (S): mean values (yes/no) and significance levels (p) from the Mann-Whitney U tests (p≤0.05 in bold).

Statements	SF1 Accessibility plan			SF2 Programme for handicap politics			SF3 Accessibility advisor			SF4 Interest organisations			SF5 Implemented measures		
	Y	N	*p*	Y	N	*p*	Y	N	*p*	Y	N	*p*	Y	N	*p*
S1	**3.0**	**2.6**	**0.024**	2.6	2.6	0.973	2.9	2.6	0.065	**2.7**	**1.8**	**0.000**	**2.7**	**2.4**	**0.027**
S2	3.0	2.7	0.156	2.8	2.8	0.660	2.9	2.7	0.340	2.8	2.4	0.072	2.8	2.7	0.246
S3	**3.1**	**2.7**	**0.028**	2.8	2.8	0.932	**3.3**	**2.7**	**0.002**	2.8	2.4	0.086	2.9	2.7	0.202
S4	2.6	2.7	0.311	2.6	2.7	0.386	2.7	2.7	0.784	2.7	2.4	0.185	2.7	2.6	0.332
S5	1.8	2.0	0.151	2.0	2.0	0.826	1.9	2.0	0.469	2.0	1.9	0.885	2.1	1.9	0.135
S6	2.2	2.0	0.468	2.0	2.0	0.837	2.1	2.0	0.726	2.1	1.9	0.424	2.0	2.1	0.230
S7	**3.0**	**2.7**	**0.023**	2.6	2.8	0.392	2.8	2.7	0.841	**2.8**	**2.3**	**0.022**	2.8	2.6	0.427
S8	**3.2**	**2.8**	**0.034**	2.9	2.9	0.855	3.0	2.9	0.247	2.9	2.8	0.501	3.0	2.8	0.144
S9	**3.0**	**2.5**	**0.008**	2.7	2.5	0.302	2.8	2.5	0.131	**2.6**	**1.9**	**0.006**	**2.7**	**2.4**	**0.011**
S10	2.9	2.6	0.079	**2.9**	**2.5**	**0.020**	2.7	2.6	0.904	**2.7**	**2.0**	**0.011**	2.6	2.6	0.639
S11	2.5	2.4	0.628	2.5	2.4	0.557	2.5	2.4	0.705	**2.5**	**2.0**	**0.022**	2.5	2.4	0.427
S12	2.5	2.3	0.215	2.4	2.3	0.569	2.5	2.3	0.126	**2.4**	**1.9**	**0.037**	2.4	2.2	0.057
S13	2.4	2.3	0.504	2.3	2.3	0.897	2.3	2.3	0.788	**2.3**	**1.9**	**0.020**	2.3	2.3	0.903
S14	2.2	2.0	0.632	1.8	2.1	0.099	1.8	2.1	0.064	2.0	2.1	0.559	2.0	2.1	0.451
S15	1.7	2.0	0.111	2.0	1.9	0.360	2.0	1.9	0.642	1.9	1.7	0.548	**2.0**	**1.7**	**0.044**
S16	1.2	1.4	0.199	1.4	1.4	0.332	1.5	1.4	0.462	1.4	1.5	0.275	1.4	1.3	0.281
S17	**2.5**	**2.0**	**0.018**	2.2	2.1	0.468	2.4	2.0	0.079	**2.1**	**1.6**	**0.028**	**2.2**	**1.9**	**0.021**
S18	**3.0**	**2.3**	**0.000**	2.4	2.5	0.494	**2.8**	**2.4**	**0.030**	**2.5**	**1.9**	**0.007**	**2.6**	**2.2**	**0.004**
S19	3.1	2.8	0.103	3.0	2.8	0.490	2.9	2.9	0.838	2.9	2.9	0.758	2.9	2.8	0.454
S20	2.6	2.7	0.780	2.8	2.6	0.154	2.8	2.7	0.622	2.7	2.9	0.235	2.8	2.5	0.084
S21	2.9	2.9	0.528	3.0	2.9	0.609	3.1	2.9	0.097	2.9	2.9	0.681	3.0	2.8	0.063

Appendix 4 Relationships between static factors (SF) and statements (S): mean values (yes/no) and significance levels (p) from the Mann-Whitney U tests (p≤0.05 in bold).

Statement components	SF1 Accessibility plan			SF2 Programme for handicap politics			SF3 Accessibility advisor			SF4 Interest organisations			SF5 Implemented measures		
	Y	N	*p*	Y	N	*p*	Y	N	*p*	Y	N	*p*	Y	N	*p*
Sc1	**2.9**	**2.6**	**0.008**	2.7	2.6	0.449	**2.9**	**2.6**	**0.014**	**2.7**	**2.1**	**0.001**	**2.7**	**2.5**	**0.006**
Sc2	2.6	2.5	0.529	2.4	2.5	0.834	2.6	2.5	0.452	2.5	2.3	0.148	2.5	2.4	0.274
Sc3	2.6	2.4	0.115	2.5	2.4	0.337	2.5	2.4	0.714	**2.5**	**1.9**	**0.002**	2.4	2.4	0.305
Sc4	2.9	2.8	0.678	2.9	2.8	0.323	2.9	2.8	0.598	2.8	2.9	0.820	2.9	2.7	0.076
Sc5	**3.5**	**3.3**	**0.049**	3.3	3.4	0.209	3.2	3.4	0.623	3.3	3.4	0.973	**3.3**	**3.5**	**0.035**