

Accessibility, mobility and social exclusion

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Aim

The aim of this paper is to present data from the four cities in the project SceneSusTech concerning the issues accessibility, mobility and social exclusion. Accessibility is analysed in the framework of institutions of everyday life, such as shopping, leisure, health facilities, employment and social networks. It is expected that accessibility in this perspective should be difficult in cities where the car dependency is very intensive and in cities that are planned around universal access to cars.

Social exclusion is specified as groups in cities on the basis of not having access to a car, are excluded from many aspects of society (Lohan, Wickham, Tovey 1998). The situation is worst in cases where people do not only the access to a private car but also the access to public transport means is poor.

Given, that the following approach is exercised:

- put emphasis on the issue of accessibility and mobility between car-owners and non car owners in each city;
- focus on the issue of social exclusion in the four working class suburban areas with respect to the use of public transport, car ownership and accessibility.

In this perspective we first present the data collection procedure. Then we present some data about the sample population in each city. Finally we present comparative Tables about accessibility and social exclusion in the four cities.

Data collection

The data was collected form from each of the four cities, representing three different types of resources as to urban structure, accessibility of services and mobility.

The sample design for this survey was governed by three basic considerations:

- a) The overall spread of cases should be sufficient to ensure acceptable reliability of results, but not excessive on cost -benefit basis.
- b) To ensure the representation of population living in central and heavy traffic roads and in other more quite roads by suitable classification.
- c) The financial and the time resources were relatively very limited, after the significant reduction of the initial budget.

The sampling unit is defined as the «individual» living in a household. For the selection of the sample it was adopted a two-way classification technique. First it was decided that the data on needs, resources and usage, in respect to the transport means, that would be required for proper analysis and execution of the project, may be selected from three distinct areas classified or characterised as:

- suburban middle class area
- low income suburban area
- inner city middle class or ‘yuppie’ area

Thus initially in each city a relative rough classification of the whole area into poor, medium or well-off sub- areas or zones was required. Then three different areas were selected (one from each zone). These areas should satisfy the above mentioned characteristics.

Then, when the sampling areas were specified and selected, it was decided to collect data from persons living in households with structured questionnaires. With respect to the relatively limited time and financial resources the sampling size had to be relatively small. In order to ensure a good dispersion of the sampling units a further classification was decided. The roads in each selected area were classified into three different groups or strata with the following criteria:

- The roads which were central arterial to the area, were classified into the first group.
- The long and large district roads of the area were classified into the second group.
- The roads that are not central i.e those in a long distance from the centre of the area, were classified into the third group.

Following this, from each area about 50 persons were selected randomly, distributed equally among each street group. With this procedure, it was expected a relative good geographical dispersion of the observations (persons) with respect to the circulation of the cars in the area.

The total sample size by area in each city is presented in Table 1. The first area in each city is the low income suburban, the second is the middle class suburban area and the third is the «yuppie» area.

Table 1. Sample size by area (all cities)

Area	Frequency	Percent	Valid Percent	Cumulative Percent
Agioi Anargiroi (ATH)	51	6,8	6,8	6,8
Polidoroso (ATH)	51	6,8	6,8	13,5
Kolonaki (ATH)	50	6,6	6,6	20,2
ATHENS (total)	152			
Barca (BOLOGNA)	99	13,1	13,1	33,3
Bolognina (BOLOGNA)	98	13,0	13,0	46,3
Centre Storico (BOLOGNA)	98	13,0	13,0	59,4
BOLOGNA (total)	295			
Jobstown (DUBLIN)	54	7,2	7,2	66,5

Clonskeagh (DUBLIN)	54	7,2	7,2	73,7
Docklands (DUBLIN)	54	7,2	7,2	80,9
DUBLIN (total)	162			
Kontula (HELSINKI)	48	6,4	6,4	87,3
Lansi Pakila (HELSINKI)	48	6,4	6,4	93,6
Taka Toolo (HELSINKI)	48	6,4	6,4	100,0
HELSINKI (total)	144			
GRAND Total	753	100,0	100,0	

Gender, age Group of respondent, has full time or part time job

It was decided that the gender of the sampled persons should equally be distributed to each city. In Table 2, we may see that from the whole sample 50,1% of the total are males and the other 49,9% females. The age of the respondents is also presented in Table 2. As seen most of them are at the age group 25-44, while 44,1% of them has a full time job and 10,8% of them has a part time job (Table 4). The others are retired persons, unemployed or students.

Table 2. Gender of respondent

Gender	Frequency	Percent	Valid Percent	Cumulative Percent
male	377	50,1	50,1	50,1
female	376	49,9	49,9	100,0
Total	753	100,0	100,0	

Table 3. Age Group of respondent

	Age Group	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-24	124	16,5	16,5	16,5
	25-44	318	42,2	42,4	58,9
	45-64	199	26,4	26,5	85,5
	65-	109	14,5	14,5	100,0
	Total	750	99,6	100,0	
Missing	missing	3	,4		
Total		753	100,0		

Table 4. Has full time or part time job

Has full time job		Frequency	Percent	Valid Percent	Cumulative Percent
Yes		332	44,1	44,1	44,1
No		421	55,9	55,9	100,0
Total		753	100,0	100,0	
Has part time job		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	81	10,8	19,7	19,7
	No	331	44,0	80,3	100,0
	Total	412	54,7	100,0	
Missing	missing	7	,9		
	error	1	,1		
	N/A	333	44,2		
	Total	341	45,3		
Total		753	100,0		

Transport ownership and use

It is interesting to analyse the transport ownership of the households in each city. As shown from Table 5, in Athens a great proportion (22,4) of the households do not have any car while 63,2% of them have only one car and 12,5% have two cars. The respective percentages for the other cities are 27,5% for Bologna, 38,9% for Dublin and 39,6% for Helsinki. In Athens there is also a different picture of the total number of cars in the household. Namely one car is shown to be owned or used by the 63,2% of the households while the respective percentage for two cars is relatively very low (12,5%). In the other cities the situation is different. One car has only the 41% of the sampled households in Bologna, 42,6% of the households in Dublin and 45,8% of the households in Helsinki. The respective percentage of the households with two cars in Dublin and Helsinki are similar to the percentage for Athens, in Bologna 26,8% of the households have two cars.

The percentage of households which owns at least one car is 52,6% in Athens, 42,7% in Bologna, 41,7% in Dublin and 50,7% in Helsinki. This different picture is explained due the fact that most households in Athens use the car as the main private transport mean. They do not use a bicycle, a scooter or a motorcycle¹

These figures are very indicative and as a result the mean number of cars in each city is differentiated significantly. Namely the lowest mean value is observed in Helsinki (0,76) and Dublin (0,88). Bologna is the only city where the sampled population has a mean value 1,09 and in Athens the respective value is 0,94.

Table 5. No. of cars in household

No. of cars in household								
City		0	1	2	3	4	5	Total
Athens	Count	34	96	19	3			152
	%	22,4%	63,2%	12,5%	2,0%			100,0%
Bologna	Count	81	121	79	12	2		295
	%	27,5%	41,0%	26,8%	4,1%	,7%		100,0%
Dublin	Count	63	69	20	7	2	1	162
	%	38,9%	42,6%	12,3%	4,3%	1,2%	,6%	100,0%
Helsinki	Count	57	66	19	2			144
	%	39,6%	45,8%	13,2%	1,4%			100,0%
Total	Count	235	352	137	24	4	1	753
	%	31,2%	46,7%	18,2%	3,2%	,5%	,1%	100,0%
No. of cars in household								
City	Mean	N	Std. Deviation		Sum (cars)			
Athens	,94	152	,65		143			
Bologna	1,09	295	,87		323			
Dublin	,88	162	,94		143			
Helsinki	,76	144	,73		110			
Total	,95	753	,83		719			

Table 6. Car ownership

City		owns car		Total
		No	Yes	
Athens	Count	72	80	152
	%	47,4%	52,6%	100,0%
Bologna	Count	169	126	295

¹ Over 90% of the sampled population do not have bicycle, scooter or motorcycle.

	%	57,3%	42,7%	100,0%
Dublin	Count	88	63	151
	%	58,3%	41,7%	100,0%
Helsinki	Count	69	71	140
	%	49,3%	50,7%	100,0%
Total	Count	398	340	738
	%	53,9%	46,1%	100,0%

Table 7. No of bikes, motorcycles and scooters in the household

No. of bikes in household

City		0	1	2	3	4	5	6	Total
Athens	Count	137	9	5	1				152
	%	90,1%	5,9%	3,3%	,7%				100,0%
Bologna	Count	57	97	85	40	14	2		295
	%	19,3%	32,9%	28,8%	13,6%	4,7%	,7%		100,0%
Dublin	Count	91	39	17	7	5	3		162
	%	56,2%	24,1%	10,5%	4,3%	3,1%	1,9%		100,0%
Helsinki	Count	42	45	23	14	9	8	3	144
	%	29,2%	31,3%	16,0%	9,7%	6,3%	5,6%	2,1%	100,0%
Total	Count	327	190	130	62	28	13	3	753
	%	43,4%	25,2%	17,3%	8,2%	3,7%	1,7%	,4%	100,0%

No. of motorcycles in household

City		0	1	2	3	Total
Athens	Count	141	10		1	152
	%	92,8%	6,6%		,7%	100,0%
Bologna	Count	280	15			295
	%	94,9%	5,1%			100,0%
Dublin	Count	154	8			162
	%	95,1%	4,9%			100,0%
Helsinki	Count	135	7	2		144
	%	93,8%	4,9%	1,4%		100,0%
Total	Count	710	40	2	1	753
	%	94,3%	5,3%	,3%	,1%	100,0%

No. of scooters in household

City		0	1	2	Total
Athens	Count	138	14		152
	%	90,8%	9,2%		100,0%
Bologna	Count	159	117	19	295
	%	53,9%	39,7%	6,4%	100,0%
Dublin	Count	161	1		162
	%	99,4%	,6%		100,0%
Helsinki	Count	144			144
	%	100,0%			100,0%
Total	Count	602	132	19	753
	%	79,9%	17,5%	2,5%	100,0%

From the analysis until now we observe that there are significant proportions of households not having at all at least one car in all cities. Anyhow most households have at least one car while in all cities households avoid to have any bike or motorcycle at all while scooter is a transport mean mostly used in Bologna. Bike is a mean mostly used in Helsinki and Bologna and very seldom used in Athens.

Household car use

In the next Tables is analysed how people use transport in relation to their daily activities. As shown in Table 8, apart from today (i.e. interview day) most people (>50%) drove the car yesterday, while only a relative little percentage used the car for >one month.

Thinking the last weekday (Monday to Friday), those who drove the car can be classified into two broader categories : those who drove to work (or college) and those who drove for shopping. Actually in the first category is distributed over 50% of the respondents (Table 9). This trend is very clear in Dublin where 70,4% of the households declared that they used the car to work/college while the respective percentage for Bologna is 47,1%, for Athens 54,5% and for Helsinki 54,7%. This journey was made by the respondent alone in most cases in Athens (70%), Bologna (75,3%) and Helsinki (63,9%).

In Greece the journey to work/college was made by the most respondents alone while in Dublin 58,5% of the respondents answered that they had company with them and in Helsinki the respective percentage was 36,1%.

There are of course other reasons people used the car during the last weekday. Such possible reasons are shopping, visiting, taking children from school/ activity or for entertainment, from the answers we collect these are reasons specially connected with free time or after work activities.

There is a multifunctional use of the private car people make in the four cities, but the questions until now are mostly connected with work activities and/or activities that are work oriented (even if people do not work actually).

The time that people spend in that journey during that weekday were differentiated with respect to the cities (Table . Most time were spend by the respondents from Dublin (1,818 h), Athens (1,546 h) and Helsinki (1,4 h), while in Bologna the respective mean time was about 0,775.

Table 8. When last drove car

City		When last drove car					Total
		Today	Yesterday	Last week	Over a week	> One month/never	
Athens	Count		61	24	8	11	104
	%		58,7%	23,1%	7,7%	10,6%	100,0%
Bologna	Count		105	41	16	29	191
	%		55,0%	21,5%	8,4%	15,2%	100,0%
Dublin	Count	3	56	9	2	3	73
	%	4,1%	76,7%	12,3%	2,7%	4,1%	100,0%
Helsinki	Count		46	16	8	14	84
	%		54,8%	19,0%	9,5%	16,7%	100,0%
Total	Count	3	268	90	34	57	452
	%	,7%	59,3%	19,9%	7,5%	12,6%	100,0%

Table 9. Drove to work/college

City		Drove to work/college		Total
		Yes	No	
Athens	Count	48	40	88
	%	54,5%	45,5%	100,0%
Bologna	Count	56	63	119
	%	47,1%	52,9%	100,0%
Dublin	Count	38	16	54

	%	70,4%	29,6%	100,0%
Helsinki	Count	29	24	53
	%	54,7%	45,3%	100,0%
Total	Count	171	143	314
	%	54,5%	45,5%	100,0%
		Anyone come with		
City		Yes	No	Total
Athens	Count	15	35	50
	%	30,0%	70,0%	100,0%
Bologna	Count	21	64	85
	%	24,7%	75,3%	100,0%
Dublin	Count	24	17	41
	%	58,5%	41,5%	100,0%
Helsinki	Count	13	23	36
	%	36,1%	63,9%	100,0%
Total	Count	73	139	212
	%	34,4%	65,6%	100,0%

Table 10. Hours in car (weekday)

City	Hours in car (weekday)		
	Mean	N	Std. Deviation
Athens	1,546	87	,948
Bologna	,775	146	,514
Dublin	1,818	67	1,506
Helsinki	1,400	65	1,247
Total	1,262	365	1,085

The results until now show that there is a multipurpose use of the private car in the four cities, although cars are mostly connected with work activities and/or activities that are work oriented.

Public transport use

In this section which is very important for the analysis of social exclusion, it is examined the use and the accessibility of the public transport use. First is examined the time it takes to the nearest bus stop in each city. Then we make a comparison of the mean time to the nearest busstop across the cities and two finally we make two broader categories of the time required to the nearest busstop (less than 5 minutes, more than 5 minutes) and we compare those in the sample having a car with those not having a car. We think that the results from this kind of analysis is very useful and indicative. Namely we expect that those not having-owning a car, leaving a relative long distance from the nearest bus stop cross-tabulated with other variables such as the time required to the nearest metro, the parts of the city that could be reached and the purpose and the frequency of the use of the public transport means would be indicative for the definition of the social excluded population.

Minutes to the nearest bus stop

The time to the nearest bus stop in the four cities is presented in Table 11. As shown from this Table in Athens the time is very short. Namely almost 77% of the sampled population in this city answered that the time to the nearest bus stop in less than three minutes. The same trend is also observed in Helsinki where 70,9% of the population

needs less than three minutes to the nearest bus stop. Of course this trend is observed in these two cities for different reasons. In Athens the population lives very densely and it is very usual the situation that the bus routes cross the houses where people live. In Helsinki, it is a necessity to reach the nearest bus stop quickly during the winter period and the distances between two bus stops are relatively closer.

In the two other cities the time required to the nearest bus stop for the majority of the sampled population exceeds 5 minutes. Actually as it is estimated from Table 12, the mean time, in minutes, to the nearest bus stop is less in Helsinki (2,36 minutes) and Athens (3,07 minutes). In the other two cities the mean time is 4,54 minutes for Bologna and 5,06 for Dublin. Although this time is not large the differences between the cities are significant.

Table 11. Minutes to the nearest bus stop

City		Minutes to the nearest bus stop						Total
		1,00	2,00	3,00	4,00	5,00	6 and over	
Athens	Count	26	62	30	1	10	23	152
	% within City	17,1%	40,8%	19,7%	,7%	6,6%	15,1%	100,0%
Bologna	Count	22	54	50	5	112	52	295
	% within City	7,5%	18,3%	16,9%	1,7%	38,0%	17,6%	100,0%
Dublin	Count	16	42	8	6	54	36	162
	% within City	9,9%	25,9%	4,9%	3,7%	33,3%	22,2%	100,0%
Helsinki	Count	43	35	24	5	20	17	144
	% within City	29,9%	24,3%	16,7%	3,5%	13,9%	11,8%	100,0%
Total	Count	107	193	112	17	196	128	753
	% within City	14,2%	25,6%	14,9%	2,3%	26,0%	17,0%	100,0%

Table 12. Mean time (minutes) to the nearest busstop

City	Mean	N	Std. Deviation
Athens	3,07	137	3,99
Bologna	4,54	295	2,61
Dublin	5,06	159	4,16
Helsinki	2,36	143	1,79
Total	3,96	734	3,33

It was also observed that from this busstop the great majority of the sampled population in all cities could reach the nearby neighborhood, neighborhood at the other side of the city and the city centre.

The frequency of the last date the respondents used the bus is very not very high. The day of the interview or the day before the interview only 22,2% of the sampled population in Athens had used the bus while the respective percentage in Bologna was 40%, in Dublin was 26,2% and in Helsinki 34,8%. These differences can be occurred by the fact that in all cities there are other public transport means that can be used.

Besides if we distinguish the population to those who own and those who do not own a car we observe that the last group is more dependent by the bus use in all cities (Table 14). For instance in Helsinki those who used the bus during the interview day (today) and do not own a car constitute the 37,7% of the total population not owned a car. The respective percentage for the population who owns a car is only 11,3%. There is also a relative peculiar trend observed from Table 14. Namely, the majority of the

sampled population owned at least one car indicate that they avoid to use the bus. This is observed by the fact that most of them have not used the buss for >one month or they never use the buss. The respective figures for those not owned a car are obviously less but relatively high: 35,7% in Athens, 14,8% in Bologna, 23,9% in Dublin and 18,8 in Helsinki. This trend can be explained by the fact that they prefer to use alternative transport means such as the metro or even a taxi, or that we a clear indication of a social excluded population, which should further be analysed.

Table 13. Last used bus

City		Last used bus					Total
		Today	Yesterday	Last week	Over a week	> One month/ never	
Athens	Count	12	21	32	17	67	149
	% within City	8,1%	14,1%	21,5%	11,4%	45,0%	100,0%
Bologna	Count	56	62	54	43	80	295
	% within City	19,0%	21,0%	18,3%	14,6%	27,1%	100,0%
Dublin	Count	21	21	39	19	60	160
	% within City	13,1%	13,1%	24,4%	11,9%	37,5%	100,0%
Helsinki	Count	35	15	42	15	37	144
	% within City	24,3%	10,4%	29,2%	10,4%	25,7%	100,0%
Total	Count	124	119	167	94	244	748
	% within City	16,6%	15,9%	22,3%	12,6%	32,6%	100,0%

Table 14. Last used bus by car ownership in each city

owns car	City		Last used bus					Total
			Today	Yesterday	Last week	Over a week	One month/ never	
No	Athens	Count	9	11	18	7	25	70
		%	12,9%	15,7%	25,7%	10,0%	35,7%	100,0%
	Bologna	Count	45	44	35	20	25	169
		%	26,6%	26,0%	20,7%	11,8%	14,8%	100,0%
	Dublin	Count	16	13	29	9	21	88
		%	18,2%	14,8%	33,0%	10,2%	23,9%	100,0%
	Helsinki	Count	26	7	18	5	13	69
		%	37,7%	10,1%	26,1%	7,2%	18,8%	100,0%
	Total	Count	96	75	100	41	84	396
		%	24,2%	18,9%	25,3%	10,4%	21,2%	100,0%
Yes	Athens	Count	3	10	14	10	42	79
		%	3,8%	12,7%	17,7%	12,7%	53,2%	100,0%
	Bologna	Count	11	18	19	23	55	126
		%	8,7%	14,3%	15,1%	18,3%	43,7%	100,0%
	Dublin	Count	3	4	9	8	38	62
		%	4,8%	6,5%	14,5%	12,9%	61,3%	100,0%
	Helsinki	Count	8	6	24	10	23	71
		%	11,3%	8,5%	33,8%	14,1%	32,4%	100,0%
	Total	Count	25	38	66	51	158	338
		%	7,4%	11,2%	19,5%	15,1%	46,7%	100,0%

The purpose of this journey was multiple, since the respondents had the possibility to all of the following: travel to/from work / College or school, shopping, visiting, take children to/from school, hobby entertainment, taking children to/from activity

From Table 15, we observe that the mean time to the nearest metro station (only for Athens and Helsinki) is 21,22 minutes for Athens and 14,49 for Helsinki. Because of the fact that the other two cities are not included to this question and because in Athens the metro station from Agioi Anargiroi and Kolonaki is quite long and not convenient to be used by the population living in these areas, this question is not analysed further.

Table 15. Time to the nearest metro station

City	Mean	N	Std. Deviation
Athens	21,22	125	8,30
Helsinki	14,49	143	7,81
Total	17,63	268	8,70

The results until now are indicative for the multiple use of the private cars or the public transport means. But there is a great proportion of the sampled population who do not own a car and use the bus or the metro (in Athens and Helsinki) very seldom. We think that if a number of persons are socially excluded and avoids the use of the transport means, this could be the case of the population living in the working class areas.

In the next sessions we examine in more detail the forms of mobility in each city.

Forms of mobility

The forms of mobility in each city are analysed in terms of travel to work/college, shopping and visiting friends etc.

As it is observed from Table 16, the two means that are used for travel to work/college are the private car and the bus. In Athens 41,9% of the sampled population use its own car to travel to work/college, in Bologna and Dublin the percentages approach 35% while in Helsinki the respective percentage is 32,5%. Bus is the second best alternative to be used to travel to work/college. Bologna is the city where 31,6% of the respondents prefer this transport means while the respective percentage for Helsinki is 30%. In Dublin and Athens the percentages are lower and (26,2% in Dublin and 27,9% in Athens).

The use of the other transport means are shown to be inappropriate in Athens. There are of course significant proportions of persons who choose other means to go to work/college. In Dublin 18,4% of the respondents choose to walk to work/college while the respective percentage for Athens is 16,3% and for Helsinki is 11,3%. Tram is another transport mean which is chosen by 12,5% of the sampled population in Helsinki, while 10,2% of the sample in Bologna use the cycle to travel to work. A characteristic trend in all cities is that the use of taxi is very low (Table 16).

The time required to travel or walk to work/college is longer for the population in Helsinki where 46,5% declared that it takes more than 30 minutes while for the Bologna almost the same proportion of the population needs less than 15 minutes to travel to work. In the other two cities the time intervals (less than 15 minutes, 16-30

minutes and 30 and over minutes) are distributed to population percentages that are varying among 28% - 34,1%.

Table 16. Normal mode to work/college in each city

Normal mode to work/college												
City		Own car	Lift	Bus	Tram	Metro	Train	Cycle	M/C cycle /scooter	walk	Taxi	Total
Athens	Count	36	4	24		4			2	14	2	86
	%	41,9%	4,7%	27,9%		4,7%			2,3%	16,3%	2,3%	100,0%
Bologna	Count	66	3	59			3	19	23	14		187
	%	35,3%	1,6%	31,6%			1,6%	10,2%	12,3%	7,5%		100,0%
Dublin	Count	37	7	27			1	9	2	19	1	103
	%	35,9%	6,8%	26,2%			1,0%	8,7%	1,9%	18,4%	1,0%	100,0%
Helsinki	Count	26		24	10	6		3	2	9		80
	%	32,5%		30,0%	12,5%	7,5%		3,8%	2,5%	11,3%		100,0%
Total	Count	165	14	134	10	10	4	31	29	56	3	456
	%	36,2%	3,1%	29,4%	2,2%	2,2%	0,9%	6,8%	6,4%	12,3%	0,7%	100,0%

Table 17. Minutes to get to work/college

City		Minutes			Total
		less than15	16-30	30 and over	
Athens	Count	29	28	28	85
	%	34,1%	32,9%	32,9%	100,0%
Bologna	Count	136	71	88	295
	%	46,1%	24,1%	29,8%	100,0%
Dublin	Count	41	36	30	107
	%	38,3%	33,6%	28,0%	100,0%
Helsinki	Count	39	38	67	144
	%	27,1%	26,4%	46,5%	100,0%
Total	Count	245	173	213	631
	%	38,8%	27,4%	33,8%	100,0%

As it was observed from Table 16 the typical mode to travel to work by most people in all cities is the private car². The reason why they use the car is analysed in Table 18. Two different trend is observed, because the majority of the answers in Athens (75,6%), in Dublin (62,2%) and Helsinki give as a typical reason the time saved by the car use. In contrast the majority of the respondents in Bologna (63,2%) said that they use the car to work/college because it is more comfortable. It is characteristic from this Table that only few individuals declared that it is cheaper.

From the same Table it is analysed the reason why people who own a car do not use it to travel to work/college. Note that the cases are restricted and the reason is that most respondents use their car to work/college. Anyhow the main reason why people avoid to use the car to travel to work/college is that they do not find parking spaces easy.

Table 18. Use or not use of the car to work/college because (car owners)

City		Use car because				Total
		Cheaper	Quicker	Weather	Comfortable	
Athens	Count		31		10	41
	%		75,6%		24,4%	100,0%

² Note that the sample is relatively low because of the fact that there are persons who do not work and besides there is a great number of persons who do not own a car.

Bologna	Count	1	23	1	43	68	
	%	1,5%	33,8%	1,5%	63,2%	100,0%	
Dublin	Count	2	23	2	10	37	
	%	5,4%	62,2%	5,4%	27,0%	100,0%	
Helsinki	Count	1	15	2	8	26	
	%	3,8%	57,7%	7,7%	30,8%	100,0%	
Total	Count	4	92	5	71	172	
	%	2,3%	53,5%	2,9%	41,3%	100,0%	
		Not use car because					
City		Cheaper	Quicker	Parking	Comfortable	Damage	Total
Athens	Count		4	8	3		15
	%		26,7%	53,3%	20,0%		100,0%
Dublin	Count	1	2	2		1	6
	%	16,7%	33,3%	33,3%		16,7%	100,0%
Helsinki	Count	2		5	10		17
	%	11,8%		29,4%	58,8%		100,0%
Total	Count	3	6	15	13	1	38
	%	7,9%	15,8%	39,5%	34,2%	2,6%	100,0%

Shopping

Another activity which is very frequent and people use the car is shopping. Analysing the data from Table 19 we observe that most respondents declared that they walked for shopping last small amounts food (94,1% in Athens, 64,6% in Dublin, 62,9% in Helsinki and 56,4% in Bologna). While a significant proportion of the respondents (varying between 15%-22%) in Bologna, Dublin and Helsinki use their car to this purpose in Athens the respective proportion is very low (5,2%). The use of any other transport mean is very low in all cities.

Three different situations are observed from the same Table when analysing the question about the means people used for shopping last food for week. In Athens most people walked or used their own car. In Bologna and Helsinki except the situation where people chose to walk (13,9% and respective 37% in each city) people used also their own car (41,2% for Bologna and 39,6% for Helsinki) or they choose to lift (20,4% for Bologna and 8,7% for Helsinki) or the bus (16% for Bologna and 10,1% for Helsinki).

In Dublin the situation is quite different because walking is not favorite to make this kind of shopping (only 17,6% walked) like as in Bologna. Instead people use their own car (39,6%), they also use the bus (22%), they take lift (11%) or take a taxi (7,5%). This situation make the analysis for Dublin more complex in that meaning that significant number of people use many different alternatives in contrast to Athens or Helsinki where the alternatives are limited to walk of the of own car.

Table 19. Shopping last small amounts food

City	Last small amounts food										
		Own car	Lift	Bus	Tram	Metro	Cycle	MC / Scooter	Walk	Taxi	Total
Athens	Count	7						1	127		135
	%	5,2%						,7%	94,1%		100,0%
Bologna	Count	50	5	26	3		23	21	166		294
	%	17,0%	1,7%	8,8%	1,0%		7,8%	7,1%	56,5%		100,0%
Dublin	Count	36	4	9			4	1	104	3	161

	%	22,4%	2,5%	5,6%			2,5%	,6%	64,6%	1,9%	100,0%
Helsinki	Count	21	2	11	5	4	9		88		140
	%	15,0%	1,4%	7,9%	3,6%	2,9%	6,4%		62,9%		100,0%
Total	Count	114	11	46	8	4	36	23	485	3	730
	%	15,6%	1,5%	6,3%	1,1%	,5%	4,9%	3,2%	66,4%	,4%	100,0%
Shopping last food for week by:											
		Last food for week									
City		Own car	Lift	Bus	Tram	Metro	Cycle	MC / Scooter	Walk	Taxi	Total
Athens	Count	59	1	2				3	67	4	136
	%	43,4%	,7%	1,5%				2,2%	49,3%	2,9%	100,0%
Bologna	Count	121	60	47			12	13	41		294
	%	41,2%	20,4%	16,0%			4,1%	4,4%	13,9%		100,0%
Dublin	Count	63	19	35			2		28	12	159
	%	39,6%	11,9%	22,0%			1,3%		17,6%	7,5%	100,0%
Helsinki	Count	52	12	14	6	2	1		51		138
	%	37,7%	8,7%	10,1%	4,3%	1,4%	,7%		37,0%		100,0%
Total	Count	295	92	98	6	2	15	16	187	16	727
	%	40,6%	12,7%	13,5%	,8%	,3%	2,1%	2,2%	25,7%	2,2%	100,0%

Similar trends are observed when analysing for shopping clothes or electronic goods.

The pattern for shopping in the four cities is relative complex. The two common choices in the four cities are the use of the private car or walking. Bus is another good choice exercised mostly by the population in all cities while lift is exercised mostly by persons in Bologna, Dublin and Helsinki. Taxi is also avoided in Athens, Bologna and Helsinki and only a relative small proportion of persons used it in Dublin.

Sociability and accessing the city and beyond

In this session a part of questions are analysed about sociability and accessing the city and beyond. As seen from Table 20, most respondents chose to use their own car to visit relatives or friends in all cities. The second alternative is the use of the bus or walking. No significant differences are observed in the trends, concerning the questions of sociability in the four cities. Of course the respective proportions in each choice (own car, lift, bus etc) are differentiated among the cities but, most people use their own car for visiting normally relatives in their houses and the other alternatives, i.e. where the proportions are high concentrated are the use of the bus or walk.

Thus the use of the car is a multiple procedure. People have cars in order to use them to travel to work/college make shopping, visit friends and relatives and of course for facilities or hobbies.

Table 20. Visiting normally relatives or friends in their house, travel to leisure of facilities by:

Visiting normally relatives in their house by:												
City		Own car	Lift	Bus	Tram	Metro	Train	Cycle	MC / Scooter	Walk	Taxi	Total
Athens	Count	84	10	21					2	19	11	147
	%	57,1%	6,8%	14,3%					1,4%	12,9%	7,5%	100,0%
Bologna	Count	114	44	59				26	19	27		289
	%	39,4%	15,2%	20,4%				9,0%	6,6%	9,3%		100,0%
Dublin	Count	60	23	47			4	1	1	15	6	157

	%	38,2%	14,6%	29,9%			2,5%	,6%	,6%	9,6%	3,8%	100,0%
Helsinki	Count	58	19	35	2	5	11	2	1	3	2	138
	%	42,0%	13,8%	25,4%	1,4%	3,6%	8,0%	1,4%	,7%	2,2%	1,4%	100,0%
Total	Count	316	96	162	2	5	15	29	23	64	19	731
	%	43,2%	13,1%	22,2%	,3%	,7%	2,1%	4,0%	3,1%	8,8%	2,6%	100,0%
Visiting normally friends in their house by:												
City		Own car	Lift	Bus	Tram	Metro	Train	Cycle	MC / Scooter	Walk	Taxi	Total
Athens	Count	82	7	17					5	25	12	148
	%	55,4%	4,7%	11,5%					3,4%	16,9%	8,1%	100,0%
Bologna	Count	104	24	74	2			31	35	24		294
	%	35,4%	8,2%	25,2%	,7%			10,5%	11,9%	8,2%		100,0%
Dublin	Count	59	12	41			1	3	2	36	7	161
	%	36,6%	7,5%	25,5%			,6%	1,9%	1,2%	22,4%	4,3%	100,0%
Helsinki	Count	46	7	26	17	11	3	3	1	20	4	138
	%	33,3%	5,1%	18,8%	12,3%	8,0%	2,2%	2,2%	,7%	14,5%	2,9%	100,0%
Total	Count	291	50	158	19	11	4	37	43	105	23	741
	%	39,3%	6,7%	21,3%	2,6%	1,5%	,5%	5,0%	5,8%	14,2%	3,1%	100,0%
Travel to leisure facilities by:												
City		Own car	Lift	Bus	Tram	Metro	Train	Cycle	MC / Scooter	Walk	Taxi	Total
Athens	Count	61	5	12					4	33	10	125
	%	48,8%	4,0%	9,6%					3,2%	26,4%	8,0%	100,0%
Bologna	Count	89	22	52	2			45	39	42	1	292
	%	30,5%	7,5%	17,8%	,7%			15,4%	13,4%	14,4%	,3%	100,0%
Dublin	Count	56	13	48			1	3	3	30	2	156
	%	35,9%	8,3%	30,8%			,6%	1,9%	1,9%	19,2%	1,3%	100,0%
Helsinki	Count	25	3	45	28	23		1	1	11	2	139
	%	18,0%	2,2%	32,4%	20,1%	16,5%		,7%	,7%	7,9%	1,4%	100,0%
Total	Count	231	43	157	30	23	1	49	47	116	15	712
	%	32,4%	6,0%	22,1%	4,2%	3,2%	,1%	6,9%	6,6%	16,3%	2,1%	100,0%

Further analysis by working class area

So far the analysis was concentrated to accessibility and the mobility habits of the sampled population in the four cities. It was observed that in many cases people have multiple choices concerning the mobility transport mean and the accessibility to various activities such as work/shopping etc.

The subject of social inclusion is not to much

Table 21. No of cars, bikes, motorcycles, scooters, telephones, mobile phones, PCs in the household by city.

City		No. of cars	No. of bikes	No. of motorcycles	No. of scooters	No. of telephones	No. of mobile phones	No. of PCs [without coms]	No. of PCs [with communications]
Athens	Mean	,94	,14	8,55E-02	9,21E-02	1,15	,72	,17	,13

	N	152	152	152	152	152	152	152	152
Bologna	Mean	1,09	1,54	5,08E-02	,53	1,61	1,33	,31	,24
	N	295	295	295	295	291	291	291	291
Dublin	Mean	,88	,80	4,94E-02	6,17E-03	,88	,85	,33	,16
	N	162	162	162	162	162	162	162	160
Helsinki	Mean	,76	1,58	7,64E-02	,00	,93	1,12	,55	,38
	N	144	144	144	144	144	144	144	144
Total	Mean	,95	1,10	6,24E-02	,23	1,23	1,06	,33	,23
	N	753	753	753	753	749	749	749	747

Table 18. No of cars, bikes, motorcycles, scooters, telephones, mobile phones, PCs in the household by working class area in each city.

Working class area		No. of cars in household	No. of bikes in household	No. of motorcycles in household	No. of scooters in household	No. of telephones in household	No. of mobile phones in household	No. of PCs [without coms] in household	No. of PCs [with communications] in household
Agioi Anargiroi	Mean	,82	,25	7,84E-02	,12	1,04	,45	9,80E-02	7,84E-02
	N	51	51	51	51	51	51	51	51
Barca	Mean	1,34	1,92	6,06E-02	,73	1,71	1,48	,37	,24
	N	99	99	99	99	98	98	98	98
Jobstown	Mean	,63	,76	9,26E-02	1,85E-02	,80	,61	,20	5,77E-02
	N	54	54	54	54	54	54	54	52
Kontula	Mean	,58	1,13	8,33E-02	,00	,90	,94	,23	,25
	N	48	48	48	48	48	48	48	48
Total	Mean	,94	1,18	7,54E-02	,31	1,22	,98	,25	,17
	N	252	252	252	252	251	251	251	249

Table 18. Would use car if I had one (non-car owners)

City		Would use car if I had one					Total
		Strongly agree	Agree	No view	Disagree	Strongly disagree	
Athens	Count	5	7	4	3	7	27
	%	18,5%	25,9%	14,8%	11,1%	25,9%	100,0%
Bologna	Count	6	14	9	12	50	91
	%	6,6%	15,4%	9,9%	13,2%	54,9%	100,0%
Dublin	Count	8	18	1	21	4	52
	%	15,4%	34,6%	1,9%	40,4%	7,7%	100,0%
Helsinki	Count	3	4	2	10	25	44
	%	6,8%	9,1%	4,5%	22,7%	56,8%	100,0%
Total	Count	22	43	16	46	86	214
	%	10,3%	20,1%	7,5%	21,5%	40,2%	100,0%

Table 20. I Would buy a car if only I could afford it (non- car owners)

City		Would buy car if I could afford it					Total
		Strongly agree	Agree	No view	Disagree	Strongly disagree	
Athens	Count	3	12		4	7	26
	%	11,5%	46,2%		15,4%	26,9%	100,0%

Bologna	Count	17	23	25	8	18	91
	%	18,7%	25,3%	27,5%	8,8%	19,8%	100,0%
Dublin	Count	8	29	4	16	2	59
	%	13,6%	49,2%	6,8%	27,1%	3,4%	100,0%
Helsinki	Count	3	5	4	12	26	50
	%	6,0%	10,0%	8,0%	24,0%	52,0%	100,0%
Total	Count	31	69	33	40	53	226
	%	13,7%	30,5%	14,6%	17,7%	23,5%	100,0%