



DESCRIPTION OF THE CASE AREAS

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1 Finland

1.1 Helsinki, Myllypuro

Type of the area	Residential suburb		
Size of the area	1,11 sq.-km	Distance from City Centre	9 km
Inhabitants (1999)	4106	Workplaces (1998)	1379
Density (inh./sq.-km)	3730	Main development time	1960's
Multi-storey buildings	85 %	Terraced houses	5 %
One family houses	0 %	Other	10 %

Myllypuro is a typical suburb of Helsinki about 9 km north-east of the city centre. Its total area is about 1 sq.-km. It has 4100 inhabitants and 1380 workplaces. The area has been mainly developed in the second half of the 1960's.

1.1.1 Terrain and nature

The area is rather flat having only one low hill. On the other hand, its built structure is quite sparse and there exist much of green areas, mainly original coniferous trees left from the time before the development of the area.

1.1.2 Traffic system

The innermost ring road of Helsinki City is passing the north-east side of the area. A peripheral feeder street diverges from this road going around the northern segment of the area. From this diverge seven cul-de-sac access roads inside the area. The main metro line of the Helsinki City is touching the eastern border of the area with one station serving the area. Characteristic for the area are a straight one kilometre long pedestrian route axis going from the metro station westwards through the area and a secondary one perpendicular to it. The area has also other secondary pedestrian paths.

1.1.3 Buildings

The buildings in the area are mainly blocks of flats, both rental and owner-occupied. The services in the area have been diminished during the 1990's due to the competition of nearby shopping centre and city centre in attracting customers. Specific for the area is a district hospital situated in its north-west corner. A major one-storey shopping centre is sited along the main pedestrian axis at its eastern end close to the metro station and another smaller one at its western end. At the crossing of the pedestrian axes is located a church and at the eastern end of the main axis stand buildings for social services.

1.2 Helsinki, Töölö

Type of the area	Residential downtown		
Size of the area	0.73 sq.-km	Distance from City Centre	0,5 km
Inhabitants (1999)	8994	Workplaces (1998)	5864
Density (inh./sq.-km)	12320	Main development time	10's – 40's
Multi-storey buildings	98 %	Terraced houses	0 %
One family houses	0 %	Other	2 %

Töölö is situated close to the heart of the Helsinki City. The south-eastern corner of the area is only few hundred meters from the main railway and bus stations. Its total area is about 0,73 sq.-km, in maximum 1,5 km from south to north and 1,1 km from west to east. There are about 9000 inhabitants and 6000 jobs on 1,2 million floor square metres. Building of the southern part of the area (Etu-Töölö) begun at the beginning of the 20th century, and was in practice completed in the 1930's. The northern part (Taka-Töölö) is a bit younger area, but the main structure and functions of these sub-areas are similar to each other.

1.2.1 Terrain and nature

The terrain of the area is comparatively up-and-down. A slight valley with a double avenue and narrow divisional park goes through the area from west to east. Besides this there are rather few and small park or green areas inside the area. The area borders in the west to a bigger green area with a park and graveyard. On the eastern side the area is facing to the Töölö bay and a park area in front of it. On southern and northern sides the built structure continues quite similarly to the structure of the area itself.

1.2.2 Traffic system

The area is surrounded by main arterials and also pierced by some streets with heavy traffic. Otherwise the transport services are quite good, bus and tramlines serve the area quite well, and both railway and metro stations are in a walking distance.

1.2.3 Buildings

Töölö is quite a big homogenous area with enclosed blocks. The density of the area is also rather high. Except some schools and churches all the buildings in the area are multi-storey buildings. The general number of storeys is six. The character of the area is very urban. It functions mainly as a residential area. In the northern part of the area (Taka-Töölö) the flats are a bit smaller, the population somewhat older and there are fewer children, than in the southern part of the area (Etu-Töölö). Services, mainly grocery shops and some special shops, are located in the building basements. The service standard is somewhat low in the area and many of the services must be searched from the City Centre itself.

1.3 Jyväskylä, City Centre

Type of the area	city centre		
Size of the area	0.73 km ²	Distance from City Centre	0
Inhabitants (1999)	4068	Workplaces (1998)	9130
Density (inh./sq.-km)	5570	Main development time	1930's-70's
Multi-storey buildings	94 %	Terraced houses	6 %
One family houses	0 %	Other	0 %

Jyväskylä was inaugurated as a town in 1837. Today it is a university city with about 80 000 inhabitants and 35 000 students. Jyväskylä is located in the lake district of Central Finland 270 km north of Helsinki, which takes 35 minutes by plane and just 3 hours by car or train. The city centre itself has a tight structure with a clear grid plan (the original town area), but the rest of the city has a rather scattered built structure. The main reason for this is Jyväskylä's situation on a marshy area with lakes and steep hills. The central university campus area situates close to the centre.

1.3.1 Terrain and nature

The Jyväskylä city centre situates on a gentle slope of a hill. It has an elongated shape along the contour lines of the slope. In south-east it is bordering to a lake shore with the main railroad and highway artery. The centre itself has only a small central park. However, there are lot of green areas on its surroundings. The slope aggravates a little bit mobility perpendicular to it. The slope also creates certain level differences to the street pattern.

1.3.2 Traffic system

The centre has a conventional grid layout with sidewalks on both sides of the streets. Some bicycle routes are offered through the area. The heart of the business area has a southwest-northeast pedestrian street. Public transportation has its own central route parallel to the pedestrian axis south-east of it. The main traffic artery, also parallel to these, is passing the centre further to the south-east. The new Science Park is located near the city centre and connected to the city with a pedestrian route. It and the planned Travel Centre (combining train and bus services) will shape the city in the near future.

1.3.3 Buildings

The Jyväskylä city centre consists mainly of multistorey blocks of flats with shops, restaurants, bank offices, groceries etc. at the basement. In the core area there are also some bigger department stores facing to the pedestrian street. There are also a theatre, schools and municipal office buildings at the area. The principal height of the buildings is 4 to 6 storeys ranging from 1 to 8 storeys (plus one 10 storeys high tower building).

1.4 Jyväskylä, Kortepohja

Type of the area	Residential area		
Size of the area	0,60 km ²	Distance from City Centre	2 km
Inhabitants (1999)	4413	Workplaces (1998)	275
Density (inh./sq.-km)	7360	Main development time	1970's
Multi-storey buildings	79 %	Terraced houses	15 %
One family houses	6 %	Other	0 %

Kortepohja is one of the neighbourhoods of the Jyväskylä city. It situates about 2 km to the north-west from the city centre. It has mainly been developed during the end of 1960's and in 1970's. It was originated by an architectural competitions about its plan. The area can be divided into two rather different subareas. The northern part has an elongated character with a compact grid structure of two storey high terraced houses, detached houses and some blocks of flats. The southern part is more scattered having wide parking areas and blocks of flats mainly for student housing. The whole area has a rectangular structure.

1.4.1 Terrain and nature

The area is situated on a gentle slope between a high hill and a lake. It is prolonged along the contours of the hill. The character of the northern part of the neighbourhood is very green with low rise wooden buildings. The southern part is more open and has less vegetation. The hill on the west side of the area is covered by a coniferous forest.

1.4.2 Traffic system

The area is supplied by a main street on its west side. The access streets of the area are aligned perpendicular to the main street. There is a south-north going main pedestrian street splitting the whole area.

1.4.3 Buildings

The area consists mainly of blocks of flats with a medium height of about 5 storeys, ranging from 3 to 9 storeys. Besides these very characteristic for the area is a rather homogenous group of wooden terraced houses (2 storeys) arranged in a straight and long grid structure.

1.5 Kuopio, City Centre

Type of the area	City Centre		
Size of the area	0.2 km ²	Distance from City Centre	
Inhabitants (1999)	956	Workplaces (1998)	3611
Density (inh./sq.-km)	4780	Main development time	1930's-80's
Multi-storey buildings	97 %	Terraced houses	3 %
One family houses	0 %	Other	0 %

Kuopio was founded in 1775 by the order of the Swedish king Gustav III. It has today 86 000 inhabitants, and its population growth has been over 500 inhabitants per year. Its

total area is almost 1200 km², out of which about 34 % is water (Lake Kallavesi). The length of the shoreline is 1600 km. Kuopio is the wholesale and retail centre of the Eastern Finland and also administrative centre of the area. Kuopio has a university, several other educational instituts, courts etc.

The city centre had originally a typical Finnish wooden town character organized in a grid plan. However, especially after the Second World War most of these wooden buildings were replaced by stoned buildings with several storeys. Very typical to the centre is its marked square with an old market hall just in the middle of the centre. Also the old Town Hall is facing to the market place.

1.5.1 Terrain and nature

The terrain of the centre is rather flat sloping gently towards the Kallavesi lake on its south-east side. The case area has very little vegetation. However, around it there are several city parks.

1.5.2 Traffic system

The traffic system of the centre is dominated by the original grid plan. It is a typical grid network consisting mainly of one-way main streets and pedestrian and cycle streets in between the main streets. Very characteristic to the central area is its narrow so called "rännikatu" streets running perpendicular to the market place. Today they function as "woonerf streets". A considerable reconstruction of the market place was made at the turn of the 1990's by digging under it a big parking hall. This has significantly improved the situation of the pedestrians at this area.

1.5.3 Buildings

The Kuopio city centre consists mainly of multistorey blocks of flats and offices with shops and other services at the basement. Around the market place there are also some bigger department stores and hotels. The principal heights of the buildings are 3 to 5 storeys ranging from 1 to 7 storeys.

2 Italy

2.1 Frascati, San Rocco

Type of the area	Residential downtown		
Size of the area	0,20 sqkm	Distance from City Centre	0,10 km
Inhabitants	2.454	Workplaces	n.a.
Density (inh./sq.-km)	12.270	Main development time	XII/XVI centuries, after World War II
Multi-storey buildings	100%*	Terraced houses	0%
One family houses	10%*	Other	

* estimated value

Frascati is a little town located 30 minutes far from Rome, in the Lazio region. This location, together with its geographical characteristics, takes it to be a commuting town with two way flows: one linked to the leisure activities of Rome's citizens and one linked to the work activities of the Frascati's citizens. This aspect, together with the size and the population of this little town (20.909 inh.), makes it representative of the situation of typical satellite small towns of central Italy.

S. Rocco is an area with an historical core, located in central position, near the cathedral of S. Maria in Vivario and the middle age district. The site has been damaged during World War II, and consequently deeply transformed. Nowadays, the area is mainly residential, with commercial facilities and handcrafts activities along most of its streets. The population in the 1991 census were 2.454 people; among them, the elderly resident population rate is higher than the young couples one. The presence of foreign immigrants is not very important. Esteemed percentages are as follows: Elderly population: 35%, young couples: 32%, foreign immigrants: 5%.

2.1.1 Terrain and nature

Frascati is a hilly town, of volcanic origin; it has a mild climate, typical of a good part of Italian cities. The area, in particular the most central part, is located on an artificial terracing with a dramatic view on Rome and on the Tiburtini mountains. The area can be considered as divided in two parts (with a level difference of about 15/20 m) linked by several stairs, steep ramps and slopes. Green features are present only at its boundaries so, under this point of view, its main characteristic is to be a so-called a "city of stone". (see Frascati1.jpg)

2.1.2 Traffic system

The street network alternates more regular patterns to more irregular ones; in these streets the car speed is very low; the area is surrounded by some inter district axes with higher vehicular volumes. The local streets are quite narrow and some of them are pedestrian. The district streets with fast-flowing traffic, are 7-8 meters wide and are asphalt paved. The real problem is the parking supply, that is quite poor in comparison to the demand. Even if the motorization rate is not so high (more or less 25 cars x 100 inhabitants, as estimated value) the parking availability is not enough; this cause an invasive illegal parking phenomenon that pushes pedestrians to minor spaces. In terms of traffic flows, this causes some jammed situations in rush hours, especially around

some poles of attraction (schools, market square and so on), that can become even worse when they occur on narrow streets.

2.1.3 Buildings

Its building structure is quite compact, with buildings three or four storeys high, mainly residential. Some very important historical buildings (fountains, ancient churches and noble families mansions) are still present mixed together with less important and more modern ones, most of them face nice little squares. Most of the houses are privately owned. Main facilities are different kinds of shops (among the others, popular restaurants, the so-called «Fraschette», are very high in number since long time tradition for Romans is to come for wine drinking and eating, especially on springtime Sundays), post office, police station (Carabinieri), primary and secondary schools. Moreover, quite close to the area core, there are: an open-air market square, the railway station, the provincial hospital, churches and other schools. The commercial activities, especially in the upper part of the area, contribute to the local livability. (see Frascati2.jpg)

2.2 L'Aquila, La Villa

Type of the area	Residential, semi central		
Size of the area	0,36 sqkm	Distance from City Centre	0,5 km
Inhabitants	1.617	Workplaces	700
Density (inh./sq.-km)	4.492	Main development time	1910-1930 and 1960
Multi-storey buildings	100%*	Terraced houses	0%
One family houses	40%*	Other	-

* estimated value

L'Aquila is both the capital of the Abruzzo region and the province capital. In this small city (69,233 inh.), 100 km far from Rome, administrative and cultural activities are located, moreover it plays the role of pole of attraction for several, little urban settlements around, reflecting, under this point of view, a typical situation of many province towns of central - southern Italy.

This area, that is located next to the town centre, delimited by the city historical walls and cut by two main district roads, has a twofold aspect: it is an elegant residential zone and an important place of the city due to the presence of the Regional Council offices; moreover it plays the role of urban green pole because of the presence of a park, called «La Villa» (another important city park, the «Collemaggio» one with its important Basilica, is quite close to the area). The zone, born in 1911, according to the Urban Master Plan, and developed in the 30s, following the model of a garden city with its small «villas», maintains still nowadays its characteristic aspect.

In this area live mostly elderly and young couples.

2.2.1 Terrain and nature

The area reflects precisely the main city's features: the morphology due to high, steep cliffs, the historical origin, the climatic conditions influenced by the highest Appenninic mountains. L'Aquila is indeed one of the coldest towns in Italy, with its healthy climate, typical of the mountain settlements. The area lies high up on a cliff inside the city walls and its location, between the historical centre and the new developments, gives it a

character of passageway that plays both a negative and positive role. The most important characteristic of the area is due to the presence of green spaces of various dimension: the most important one is La Villa, a big green park, with a mix of caducous and evergreen species, flanked by smaller gardens and by streets lined with trees, that play the role of “green lung” of the town. (see L’Aquila1.jpg and L’Aquila2.jpg)

2.2.2 Traffic system

The “boulevard” shape of the main axis and the central park front, with its facilities, channel the flow of people towards the town historical centre, adding some vital sap to the district; this indeed can be considered as a positive element since the area, inhabited above all by elderly, has a very quiet character.

The inner street network is characterized mostly by one-way residential streets and by a low traffic; but since in the nearby city centre vehicular traffic is forbidden, the two roads that cut the area bring a heavy trough traffic, from and to the city centre; therefore, car traffic is anyway one of the main problems of the area . Moreover, such choices increases the parking demand, and so the area becomes a parking basin for the downtown; the visitors indeed, also having at disposal very close to the area, paying parkings don’t use them enough. This parking demand diminishes the availability for La Villa residents, who should park freely along the streets.

In the area some urban and extra urban public bus lines are operative.

2.2.3 Buildings

The building structure of the area, produced by different interventions, is compact and quite homogeneous. There are three different building types, that reflect the building phases of the area: the little villa, a typical residential building of the 30s, located on one side of the area, some social housing (small houses with greenyards), and some small residential block of flats, the so-called «palazzine», recently built. Within the residential area there are few commercial facilities but various services: a little kindergarten, the parish, a private medical center, the University, the Regional Council offices and banks. Unlucklily, some basic services (public junior schools, for instance) are out of the area.

2.3 Modena, Saliceto Panaro

Type of the area	Residential, suburban		
Size of the area	0,68 sqkm	Distance from City Centre	1km
Inhabitants	3.915	Workplaces	n.a.
Density (inh./sq.-km)	5.757	Main development time	1970
Multi-storey buildings	90%*	Terraced houses	10%*
One family houses	5%*	Other	

* estimated value

Modena is a middle size city (176.972 inh.), located at 30 minutes by train from Bologna, in the centre of the Emilia Romagna region, in the North of Italy. As L’Aquila, also Modena is a province capital, but the local activities pattern is more based on agriculture and on industries, than on tertiary activities; its inhabitants have an high per capita income. Modena is characterized, in particular, by productive activities related to the cars business (Ferrari, Maserati, Lamborghini). Moreover, Modena is one of the Italian cities

with the higher number of cars per inhabitant: 65 cars per 100 inhabitants. For its overall features it can be assumed as a typical example of most Northern Italian cities.

The area presents a mix use destinations, mainly residential, with few commercial activities and some services; it is located in the East inner suburb of Modena and represents a typical modern development built in the '70s; it is surrounded and cut by inter-district roads.

The population is divided according to the following percentage: 17% (age 0-19), 66% (age 20 – 64), 17 % (age 65 and over).

2.3.1 Terrain and nature

The area is characterized by a flat orography, as the whole city, that is located in the Po Plain; this factor, and the climate conditions have some influence in the modal choice pattern. In this sense Modena can be defined as a typical Po Plain city, with extreme climate conditions (i.e. the alternance of very cold, foggy winters and very hot summers with high humidity rates) and characterized by a good presence of green, due to public green areas, to the trees that line the streets and to the little private front gardens, as the Saliceto Panaro area demonstrates.

2.3.2 Traffic system

The local vehicular traffic scheme is based on a grid of more quiet inner, residential and thence O/D axes, and by the interdistrict roads that cross and surround the area. Traffic problems are many; lorries, vans, etc., related to the presence of an industrial compound in the area, create congested situations in peak hours, especially along the main streets, where indeed big traffic flows are regularly recorded; jammed situations are also present around the local primary school premises. In the whole area there are many accidents, especially involving pedestrians and cyclists, due to the excessive speed, to the lack of enforcement and to the big number of intersections. In the area some urban and extra urban public bus lines are operative. (see Modena2.jpg)

2.3.3 Buildings

The built structure is quite compact, mixed with small green areas surrounding the blocks of flats; it alternates buildings six/seven storeys high, small houses with gardens and few terrace houses built later on, but presents also some medium size factories. Since the area has very recently developed, there are no relevant architectonic characteristics, with the exception of a big sport facility (a baseball playground), located on the area border; most of the few commercial activities in the area are linked to the everyday needs meeting; other services as, for examples, schools and hospital are present too, and they play a very important role because of extra district relevance. (see Modena1.jpg)

3 Switzerland

3.1 Geneva, La Cluse

Type of the area	Mixed urban district (residential, commercial)		
Size of the area	0,46 sq.-km	Distance from City Centre	2 km
Inhabitants (1999)	14'894	Workplaces (1998)	5'780
Density (inh./sq.-km)	32'378	Main development time	1947-1970
Multi-storey buildings	95%	Terraced houses	0%
One family houses	0%	Other	5%

The area La Cluse is a very dense district about 2 km south of the city centre. Its total surface is about 0.5 sq.-km. It has 14'900 inhabitants and 5780 working places. The area has been developed mainly in the middle of the 20th century.

3.1.1 Terrain and nature

The area is rather flat, rising towards north-east. The river Arve forms a boundary in the south. The building structure is quite dense, only few green areas exist. A large recreational park borders on the north-west, in the east is the cantonal university hospital and the university itself.

3.1.2 Traffic system

The area is surrounded by main arterials and streets with heavy traffic. It is also pierced by some streets with heavy traffic. The public transport services are quite good, 4 bus and 2 tramlines serve the area quite well.

3.1.3 Buildings

The case area "La Cluse" is a very urban area in the south part of the city with large housing blocks and small courtyards. The density of the area is very high. Except some schools, the university and churches all buildings in the area are multi-storey buildings. The general number of storeys is 8 to 11. The character of the area is urban mixed, many facilities and services are located in the ground floor. Nearly all buildings are inhabited.

3.2 Sursee, Sursee Mitte

Type of the area	Mainly residential, with old town, commercial and industrial parts as well		
Size of the area	1,02 sq.-km	Distance from City Centre	0 km
Inhabitants (1999)	4'498	Workplaces (whole city, 1998)	7'546
Density (inh./sq.-km)	4'410	Main development time	1960's
Multi-storey buildings	85%	Terraced houses	5
One family houses	5	Other	5

The area Sursee Mitte is in the west part of the city between rail station and old town (included). Its total surface is about 1 sq.-km. It has 4'500 inhabitants. The whole town of Sursee has 7546 working places (the number in the case area is not available). The area has been mainly developed in the second half of the 20th century.

3.2.1 *Terrain and nature*

The terrain of the area is rather flat, the old town is slightly elevated. The small river Sure crosses the area from the north and forms a boundary in the south. The area is bounded by the railway line in the west and by large roads in the north and east. The building structure consists mainly of housing blocks which are surrounded by greens and trees.

3.2.2 *Traffic system*

The area is surrounded on two sides by main arterials, there are only few streets with heavy traffic inside the area. The public transport services are not very good, there are different bus lines serving only the area between the railway station and the old town, but not the south part of the area. A system of "public car" (to call for individual services) is completing the supply of public transport. Train connections are quite good.

3.2.3 *Buildings*

The historical old town has shopping facilities and restaurants and became even more attractive for pedestrians after remodelling public space in 1998. Along "Bahnhofstrasse" the buildings are large blocks with 3 to 5 floors. The ground floor has shops and private facilities. Newly built supermarkets dominate the central street "Bahnhofstrasse". The industrial buildings concentrate on the south-east side of the railway station and railway-lines. Older residential buildings consist of one or two unattached family houses with 2 - 4 floors, surrounded by gardens and large green areas. Newer residential buildings are higher and larger blocks of 4 to 8 floors. The residential areas have a low housing density.

3.3 **Zurich, Langstrasse**

Type of the area	Mixed urban district (residential, commercial, entertainment)		
Size of the area	0,6 sq.-km	Distance from City Centre	2 km
Inhabitants (1999)	7'532	Workplaces (1999)	9'215
Density (inh./sq.-km)	12'532	Main development time	1893-1930
Multi-storey buildings	95%	Terraced houses	0%
One family houses	0%	Other	5%

The area Langstrasse is situated in a very dense district about 2 km in the north of the city centre. Its total surface is about 0.6 sq.-km. It has 7'500 inhabitants and 9'200 working places. The area has been mainly developed in the first half of the 20th century.

3.3.1 *Terrain and nature*

The terrain of the area is flat. The area is bordered in the north-east by the river Limmat and in the south-west by railway lines. Its built structure is quite dense, only few green areas exist.

3.3.2 *Traffic system*

The area is surrounded by one main arterial along the river Limmat and by the railway lines near the south border. It is also pierced by a main arterial with heavy traffic. The transport services are quite good, bus and tramlines serve the area quite well and the main railway station is near the east border of the area.

3.3.3 *Buildings*

About a fourth of the buildings are from the last century and half of them were built before 1930. The buildings are arranged in right-angled blocks, 4 to 6 floors high. Industrial buildings (1 to 2 floors) are exceptional, some gardens are situated in the courtyards. Along the river bank and partially along the railway line the buildings are 6 to 8m floors high (schools, museum, parking, private services).

3.4 **Zurich, Schwamendingen Mitte**

Type of the area	Mainly residential, with a commercial centre		
Size of the area	0.56 sq.-km	Distance from City Centre	
Inhabitants (1999)	5'294	Workplaces (1998)	1'002
Density (inh./sq.-km)	9'453	Main development time	1930-1960
Multi-storey buildings	95%	Terraced houses	0%
One family houses	5%	Other	0%

The area Schwamendingen Mitte is in the north of the city and was a suburb of Zurich in former times. Its total surface is about 0,6 sq.-km. It has 5'300 inhabitants and 1'000. working places. The area has been mainly developed in the middle of the 20th century.

3.4.1 *Terrain and nature*

The terrain of the area is flat. The area is bordered by a highway in the west and north. Along the northern border runs the river Glatt, a little stream flows from the area into the Glatt. The area has spacious greens around schools, sports facilities and swimming pool. The blocks of flats are surrounded by greens and trees.

3.4.2 *Traffic system*

The area is surrounded by the highway as well as by main arterials and smaller streets. In the north near the river Glatt the area is also pierced by one main arterial with heavy traffic and four lanes. The public transport services are quite good, 3 bus and 2 tramlines serve the area quite well.

3.4.3 *Buildings*

Detached blocks of flats with 4 to 5 floors were built in the fifties and sixties. In between are small areas of one- and two-family houses. The buildings around “Schwamendingerplatz” with shops and restaurants were built in the last decades. Public services and facilities are with some exceptions only in the centre of the area.

4 Norway

4.1 Lillehammer, Centre

Type of the area	Downtown and residential area		
Size of the area	app. 0,4 km	Distance from City Centre	0 km
Inhabitants	1937	Workplaces	*
Density (inh./sq.-km)	4850	Main development time	1850 -
Multi-storey buildings	80 %	Terraced houses	5 %
One family houses	15 %	Other	0 %

*) Grey fields have only guessed values.

No. of traffic accidents (annual average) 95-99	5,2
No. of pedestrian accidents (annual average) 95-99	2,2

Lillehammer is a town of 24 873 inhabitants (01.01.2001) and about 2000 students, located centrally in Southeast Norway, among mountains and overlooking Norway's largest lake. Lillehammer may represent the many small and middle-sized Norwegian cities. In this European study, Lillehammer also represent a city with a winter climate. Lillehammer is a centre for winter and summer sports tourism. Hosting the Olympic winter-games and Para-Olympic games in 1994 gave extra motivation for improvements of infrastructure aiming for a city for all.

The case area includes the railway and bus station and the main shopping area, surrounded by residential streets. The historic Storgata is flanked by wooden houses dating back over 150 years, and within the main shopping area buildings are kept in their traditional style. The area is app. 1 km x 0,4 km.

Compared to the inhabitants in the total municipality, there are more single persons, more middle-aged and elderly women and fewer families with children in the case area.

4.1.1 Terrain and nature

Lillehammer has inland climate with quite cold winters and relatively warm summers. The centre of Lillehammer is located in the hills facing south-west overlooking the lake Mjøsa, a good location considering sunshine. This means that the streets south-north are mainly level, while streets east-west are rather steep hills. There are two parks, one at each end of the area, and the river Mesna runs through the area.

Picture 1 Hilly streets in Lillehammer

4.1.2 Traffic system

The case area includes the railway station and bus station. The railway borders the area to the west, as well as one of the main arterial streets. Low-floor city buses, service lines and dial-a-bus lines make the public transport system available and accessible and special care has been taken to make the old train station accessible.

Within the case area the grid system is rather regular and almost all streets have sidewalks on both sides. Speed limits are 50 km/h within the area. The central shopping area is pedestrianized around the historic Storgata. 70% of all pedestrian crossings in the

town centre are accessible for wheelchair users, and many of these are also designed for the visually impaired. Sufficient handicap parking-places are available.

Picture 2 Main pedestrianised street Storgata in Lillehammer city centre

4.1.3 Buildings

Almost all streets have continuous rows of buildings on both sides. Within the main shopping area buildings are kept in their traditional style, with more than 150 years old wooden houses in the pedestrian street Storgata. More modern buildings are also kept at moderate heights of 2-6 levels, and there are one-family houses and row housing in residential streets.

All (official) public administration buildings are accessible. 60% of all private owned public buildings are accessible, and all branches are covered. Where outdoor ramps were inconvenient, several shops made indoor adjustments to manage level differences. Some shop-entrances also have acoustic signals to guide blind people to the entrance.

4.2 Lillehammer, Vingrom

Type of the area	Residential, scattered housing		
Size of the area	82,9 km ²	Distance from City Centre	8 km
Inhabitants	800	Workplaces	*
Density (inh./sq.-km)	10	Main development time	1950-80
Multi-storey buildings	10 %	Terraced houses	0 %
One family houses	90 %	Other	0 %

*) Grey fields have only guessed values.

No. of traffic accidents (annual average) 95-99	2,2
No. of pedestrian accidents (annual average) 95-99	0

Vingrom is a part of Lillehammer Municipality situated about 8 km south of the town centre, close to the lake Mjøsa and the national highway E6. It is a traditional district with agriculture and industry, and housing has developed over different time periods. The area is characterised by valuable cultivated landscapes and the river Rinna.

The district has an elementary school, kindergarden, community centre, church and a sports park with several facilities. Residents have strong relations to their district and there is a varied offer of voluntary organisations. Age and gender distribution of residents is similar to the rest of the municipality.

4.2.1 Terrain and nature

Vingrom has inland climate with snow and cold weather in the winter and relatively warm summers. The centre of Vingrom is close to the lake Mjøsa and surrounded by hills. Vingrom is a green area with green fields, semi-open areas with bushes and trees, as well as woods, and the river Rinna runs through the area.

4.2.2 Traffic system

The national highway E6 between Oslo and Trondheim runs south-north along the shores of the lake Mjøsa, bordering the area to the east. In Vingrom E6 makes a junction with another highway (route 250) leading to western Norway, with considerable heavy traffic.

Speed limits are 80 km/h for highways, and also for local roads, except sections with a concentration of housing. Most local roads are narrow, curved gravel roads with no street lighting. There is a section of 400 metres of walkway by the school and a zebra crossing at a main intersection, except these there are no pedestrian facilities in Vingrom.

There are two bus stops and several bus lines serving Vingrom, but with low frequency.

Picture 3 Way to school in Vingrom

4.2.3 Buildings

Parts of Vingrom have scattered housing, while some residential areas are concentrated around the school and the general store. Being a traditional district with agriculture and industry, housing has developed during different time periods. Now there are two new housing areas being planned.

Picture 4 Residential road in Vingrom

Close to the junction between the highways E6 and route 250, there is a large furniture store and several enterprises. The school, kindergarten, community centre and sports facilities are concentrated on the other side, west, of highway route 250.

4.3 Trondheim, Lade

Type of the area	Residential, industrial and commercial area		
Size of the area	3,2 km ²	Distance from City Centre	0-3 km
Inhabitants	4028	Workplaces	*
Density (inh./sq.-km)	1253	Main development time	1900-2002
Multi-storey buildings	25 %	Terraced houses	10 %
One family houses	65 %	Other	0 %

*) Grey fields have only guessed values.

No. of trips per day (average) 1990	4,0
No. of trips walking/biking per day (average) 1990	1,2
No. of traffic accidents (annual average) 95-99	8,5
No. of pedestrian accidents (annual average) 95-99	1,6

Trondheim is Norway's third largest city with 148.859 inhabitants (01.01.00) situated on the West Coast of Norway, about 500 km north of Oslo. Trondheim represents the

situation in larger cities in Norway. Trondheim has a coastal climate with relatively mild winters and cool summers, situated on the Trondheim fjord.

Lade is a residential area near the city centre of Trondheim with a history older than the founding of the city in 997 and consisting of housing built in different periods including new housing areas. Residential areas surround a central commercial and industrial area. Lade has about 4000 residents, with more people visiting each day for work, studying and shopping. The Lade area has more residents 60 years and older, and less children, teenagers and young adults, compared to the municipality of Trondheim.

4.3.1 Terrain and nature

Part of Lade is rather hilly with nice views to the fjord and the city centre. Lade is a rather green area with woods, parks, one family houses with gardens and centrally located soccer fields. Along the shoreline there is a recreational path connected to housing areas, sport fields, playgrounds and beaches. Parts of the area are used as recreational area for inhabitants living in other parts of the city.

Trondheim is situated on the coast of Norway, in the Trondheim fjord, with relatively mild winters and cool summers. Weather is shifting with rain showers at all times of the year. Located at the seaside, Lade has less snow than most of Trondheim.

4.3.2 Traffic system

To the south the railway and highway are significant barriers to the rest of Trondheim. Speed limit is 50 km/h for main entrances to the area and main streets bordering the central commercial and industrial area, some of these have two lanes in both directions and heavy traffic.

Picture 5 Part of the commercial and industrial area centrally at Lade

The rest of the street network is mainly residential streets with 30 km/h speed limit. The 30 km/h speed limit was introduced 10-15 years ago, and many of these streets have bumps to keep the actual speed down. Some of these streets are narrow, curved and hilly and with narrow or no sidewalks. Some of the residential streets have a not so good condition of asphalt surface, and some are gravel roads.

Two bus lines serve the area with three buses per hour on weekdays.

Picture 6 Residential streets at Lade

4.3.3 Buildings

Centrally located at Lade is a commercial and industrial area with most services and shops available, surrounded by the residential areas. Most of industry and commercial enterprises are car oriented, sparsely set out and with rather large parking areas. Lade is a residential area consisting of housing built in different periods including new housing areas.

4.4 Trondheim, Midtbyen

Type of the area	Downtown and harbour area		
Size of the area	0,2 km ² + Brattöra	Distance from City Centre	0-1 km
Inhabitants	522	Workplaces	*
Density (inh./sq.-km)	2610	Main development time	1850 -
Multi-storey buildings	100 %	Terraced houses	0 %
One family houses	0 %	Other	0 %

*) Grey fields have only guessed values.

No. of trips per day (average) 1990	4,2
No. of trips walking/biking per day (average) 1990	2,7
No. of traffic accidents (annual average) 95-99	11
No. of pedestrian accidents (annual average) 95-99	3,6

The city centre of Trondheim is a rather compact area located at the seafront, bounded by the fjord and the river Nid. People have lived here in a town settlement further back than the city foundation in 997.

The case area consists of two parts, the north-eastern part of the city centre (Midtbyen) and the harbour area Brattöra. Today the new development area Brattöra has no residents, but several working places. The main railway, bus station, boat and ship terminals and a new public swimming pool are located on the man-made island Brattöra.

522 persons live within the case area. Almost half of these inhabitants are 20-29 years old. Young and middle aged men are over-represented and very few are children 0-19 years old or older than 80 years old. In addition, there may be students living in the area on a non-permanent basis.

4.4.1 Terrain and nature

Both the downtown area and the Brattöra area are relatively flat. The area is generally rather flat, but there are some steps and steep slopes to the alleys and warehouses along the river to the east and the canal to the north. There is little *vegetation* in this area giving shelter for wind or precipitation. While water is present by both the canal, separating the downtown area and the Brattöra area, and the river Nid forming the east border of the case area.

4.4.2 Traffic system

- Midtbyen N-E area is rather flat with streets in a tilted grid system. The river, the canal and some key buildings also help for orientation. Midtbyen N-E consists of main streets and narrow alleys.

All streets in Midtbyen have 50 km/h speed limit. Most streets in Midtbyen N-E are wide with sidewalks on both sides, while there are some passages where the sidewalks are narrow. There are two pedestrianized streets in the shopping area. Most alleys are narrow with mixed traffic, although a few of the alleys are only for pedestrian and bicyclist traffic. Along the canal there is a passage for pedestrians.

Picture 7 Pedestrianised street in Trondheim city centre

While terminals for trains, boats and regional and long distance bus lines are located on the island Brattöra, the city bus street terminal is located centrally in the downtown area, at the south-west border of the case area.

4.4.3 Buildings

Most buildings are 2-4 stories high to fit in with the 18th and 19th century wooden houses, built in a row, in 2 or 3 stories and painted in different colours. Apartments have been added on top of existing buildings, and there is a relatively new apartment complex north-east in the case area.

Picture 8 Trondheim city centre

So far the Brattöra area has some large buildings, but more spaced out, meaning more sunshine and also more wind.

4.5 Trondheim, Tillerbyen

Type of the area	residential, industrial and commercial areas		
Size of the area	app. 2,4 km ²	Distance from City Centre	8-11 km
Inhabitants	app. 6000	Workplaces	
Density (inh./sq.-km)	2500	Main development time	1975-2002
Multi-storey buildings	* 15 %	Terraced houses	20 %
One family houses	65 %	Other	0 %

*) Grey fields have only guessed values.

No. of trips per day (average) 1990	3,7
No. of trips walking/biking per day (average) 1990	1,0
No. of traffic accidents (annual average) 95-99	8,4
No. of pedestrian accidents (annual average) 95-99	1,8

Tillerbyen is a residential area 8-11 km south of the city centre of Trondheim. Tillerbyen was planned in the 60's and constructed mainly through the 70's and 80's although some housing areas are built recently. Centrally is a commercial and industrial area, as well as a concentration of schools, surrounded by residential areas.

About 6000 inhabitants live within the Tillerbyen case area, being the larger part of the Tiller neighbourhood. In Tillerbyen there are mainly one-family houses, but also in row houses and some low blocks of flats. The age distribution is typical for new residential areas with many children and young persons up to 19, and many 40-49 years old adults. There are less young adults 20-29 years old and persons 60 years and older.

4.5.1 Terrain and nature

Tillerbyen is an open, flat area of 150 –200 meters above sea level, with little shadow (sunny). Weather is windy and with considerable precipitation; there are no narrow streets or continuous row of facades. There are no visible sources of water within case area. Tillerbyen is mostly a green area with woods and single-family houses with small gardens.

Also the central shopping and industrial area is spacious and green, but more and more land is built on and parking lots are enlarged, reducing the green shield towards the main highway E6 bordering the area.

4.5.2 Traffic system

A main street divides the area with most commercial and industrial activities on the west side, and mostly schools and housing areas on the east side. Main streets have 50 and 60 km/h speed limits, while residential streets have 30 km/h speed limit. Residential streets have an organic layout, with different systems for numbering the houses. Some residential streets have centrally located parking garages and are closed for regular car traffic. All signs for orientation are connected to car lanes and not walkways.

Picture 9 Residential areas in Tillerbyen

There is a good walkway network mostly free of hindrances although footbridges and underpasses may be difficult to overcome. Walkway network within the residential areas is good, as well as a recreational network, while walkway connections to shops and enterprises in the western part are not quite as good.

4.5.3 Buildings

Tillerbyen was planned in the 60's and constructed mainly through the 70's and 80's although some housing areas, shops and warehouses are built recently. In Tillerbyen there are mainly one-family houses, but also in row houses and low blocks of flats. The incinerator and a hotel are visible landmarks as well as the main highway E6 bordering the area.

Picture 10 Central

5 Belgium

5.1 Ans-Rocourt

Type of the area	Suburban area with mixed activities : social housing, large shops		
Size of the area	1,90 sq.-Km	Distance from City Centre	9 Km (Liège) / 1,3 Km (Ans)
Inhabitants (2000)	4200	Workplaces	1200 / 1300
Density (inh./sq.-km)	2200	Main development time	1920 / 1970
Multi-storey buildings	<5%	Terraced houses	50%
One family houses (terraced houses excluded)	10%	Other (essentially “boxes” of various sizes for shops)	35%

The Ans-Rocourt site is located in the Liège suburbs (North of Liège, at 9 Km from the city centre or 1,3 Km from the centre of Ans), partly on the Municipality of Ans and partly on the territory of Liège. The place developed in the 19th century as a coal mining area. The last mines were shut down in the middle of the 20th century, leaving huge stretches of industrial wasteland dotted with workers’ housing estates. After a period of land redevelopment following the closure of the collieries and the building of the bypass motorway around the City of Liège, this part of the suburbs of Liège was taken over mostly by industrial, craft and business activities. These activities monopolise huge areas (in particular, shopping centres of regional importance) without any great coherence between them. Some new “middle class” housing estates have also recently appeared.

5.1.1 Terrain and nature

The area is flat. Most of the free surfaces bordering the buildings are covered by water-proof surface material (asphalt). The study area gives an impression of being “highly mineralized” and the “natural sites” accessible to the public are very sparse. Vegetation is limited to private properties (gardens), to industrial wastelands pending re-urbanisation (old colliery) and excess roadway spaces (motorway embankments). The lack of vegetation and variations in topography, together with the mineralization of large areas, create an inhospitable “microclimate”: excessive ventilation, dust, aggressive dryness, reverberation and heat in summer, cold in winter etc.

5.1.2 Traffic system

The area is delimited by 2 highways (*Brussels-Liège* and *Paris-Köln*) and served by 3 main regional roads linked together (access to Liège) on which circulate very important traffic flow (with bus lines) in relationship with the shops, the commercial centres and other leisure activities as a cinema complex. On the peak hours, on week-ends and in the evening (just before the closing time of the shops) the traffic flows are very dense giving rise to a parasitic (by-pass) traffic on side roads. The entrances/exits of parking areas adjoining the hypermarkets are sometimes problematic, as well as the exits of nearby motorway intersections (intersections of *Ans*, *Alleur* and *Rocourt*). Compared to these flows of vehicles, the bus services are at a relative low level.

At the area, the main streets are very disturbing and even repulsive for the walkers due to the high traffic flow (traffic noise and very bad safety). Moreover, the high distances

are perceptible because of the straight character of the flat streets. Hence, they are not normally used for walking.

5.1.3 Buildings

The occupation density is average. Besides workers' housing estates (small one family terraced houses) built up during the first part of the last century the urbanization of the area is relatively recent. The fronts of large functional one-storey buildings (mostly shops) are in most of the cases set back from the streets allowing clear areas used for car parking. Some new developments (minority) comprise "middle class" estates (one family houses with gardens) and multi-storey buildings (flats with shops or garages at the ground floor).

5.2 Eupen

Type of the area	Downtown and residential area on its border		
Size of the area	1,1 sq-Km	Distance from City Centre	0 Km
Inhabitants (2000)	6100	Workplaces	1700 / 1800
Density (inh./sq.-km)	5550	Main development time	18 th century to now
Multi-storey buildings	<5%	Terraced houses	50%
One family houses (terraced houses excluded)	20%	Other (public buildings and 2 shopping centres)	25%

The city of Eupen is located in the east part of Belgium, in the German speaking area. At the regional level, it is a medium sized city (17,500 inhabitants for the whole city) and an administrative centre for the German speaking community of Belgium.

The study area (115 hectares of the 10,400 of the whole municipality) is characterized by a mix of functions: shops, schools, hospital, different kinds of services and residences (typically urban or new housing estates). It is also characterized by extensive green open fields still existing inside or along the city centre.

5.2.1 Terrain and nature

Eupen is characterized by a hilly topography (30 m between the highest and the lowest part of the area). The old town is settled in the bottom of a basin formed by several small valleys. The town has spread widely beyond its original boundaries, forming thus an uptown and a downtown, linked by stairs on some places. Many green and large spaces (parks or meadows) are persistent right in the heart of the city and are used by pedestrians.

5.2.2 Traffic system

The string of public parks on the edge of the town centre offers interesting walking possibilities on a network of paths and lanes prohibited from motor vehicle traffic. The municipality has a project to let this network grow. The main road network with heavy transit traffic surrounds the studied area. Some roadways are at the limit of their capacity as regards their configuration. Inside the studied area a network of ancient small streets with limited traffic are not really "improved" by a high standard of quality, ex-

cept the shopping streets. On the border of the studied area one also finds the municipal bus and railway stations.

5.2.3 Buildings

The centre is a densely built-up core with old and new low-rise buildings (public and private, small and large), mostly adjoint, along more or less narrow streets and alleys. Right on the periphery of this centre one can find a more loose-fitting structure of recently built one-family houses and large isolated buildings (schools, supermarket etc.), mostly in green areas, gardens, and tree-lined streets.

5.3 Liège

Type of the area	Downtown - Business centre (partly)		
Size of the area	0,6 sq-Km	Distance from City Centre	0 Km
Inhabitants (2000)	4400	Workplaces	Around 13000
Density (inh./sq.-km)	7350	Main development time	16 th century to now
Multi-storey buildings	30%	Terraced houses	20%
One family houses (terraced houses excluded)	0%	Other (large variety of sizes and uses)	50%

Liège and its built-up area (200,000 inhabitants in the city, 500,000 in the so called metropolitan area) is one of the five Belgian cities officially recognised as "metropole" in the country (together with Antwerpen, Gent, Charleroi and Bruxelles).

The studied case area (60 hectares of the 7,000 of the whole municipality) covers a part of the historical town centre along the river edge, which is an important commercial, educative and administrative centre at the regional scale. The population living inside this area has some specificities comprising :

- A big amount of students (University and several high schools) ;
- An important group of old people (70 years and older).

5.3.1 Terrain and nature

Liège is a valley city, enjoying a relatively mild temperature (snow and ice are exceptional in the city centre). The studied area is flat and densely urbanized. The streets are mostly covered by concrete paving stones. It creates a very significant mineralization. Plants amount to lines of trees (in pavements or in tubs) as well as ornamental flower beds (flower arrangements).

5.3.2 Traffic system

The studied site is composed of a great variety of roadway types:

- The city is composed of a network of old narrow streets, alternating with rather wide spaces, mostly transformed into pedestrian areas freeing an enormous amount of room for shops in an environment favourable to walking.

-
- A system of boulevards covering a wide area, resulting from the filling in of ditches and canals in the 19th century. The roads along the banks of the Meuse will also be put in this category. They constitute the main access network to the city and are marked by the pressure of car traffic. The public transport lines serving the centre use most of these boulevard belts, which provide separated lanes for buses. The lines have a high frequency and a very dense bus-stop spacing.
 - Intermediate streets managed as semi pedestrian. The motorised traffic is allowed mainly for the access to parking places serving the centre.

The studied area comprises also:

- 7 public built-up car parks + parking on streets and places + a lot of private and collective built-up car parks (for residences and companies).
- 3 bus terminals (St-Lambert / Léopold, République française / Opéra and Cathédrale / St-Paul) + some important bus stops (most important of them are Pont d'Avroy, Cockerill, XX Août and Croisiers) either for metropolitan and urban buses + 1 train station (Liège-Palais, which is not the main railway station of Liege).

As regards the safety problems "visitors" are in such a city centre area much more important than the residents. (Merely the daily bus passengers represent more than twice the amount of the inhabitants.)

5.3.3 Buildings

The area offers all the common urban functions like shops, administration, education and culture, services and work places, leisure, collective and private housing etc. in a dense built-up environment. The size and the functions of the buildings are extremely variable, the common typology being multi-storey buildings standing side by side and forming a continuous façade enclosing the public space. One can also find some remarkable institutional buildings of specific scale (churches, theatre, university, public library etc.).

6 France

6.1 Nantes, Bellevue

Type of the area	Urban Development Zone: mainly residential (blocks of flats) + shopping areas, amenities and public services.		
Size of the area	0,54 sq.-Km	Distance from City Centre	4 km west
Inhabitants (1990)	8 000	Workplaces	
Density (inh./sq.-km)	14 800	Main development time	towards the end of the 1960s
Multi-storey buildings	80*	Terraced houses	5*
One family houses (terraced houses excluded)	15*	Other	0

(* estimated value)

Located in the West of France, *Nantes* is a town with 270 000 inhabitants, in a built-up area of 518 000 inhabitants. It is mainly characterised by its strong policy for developing public transport, 30 km/hour zones and favouring the use of bicycles.

The *Bellevue area* is located 4 km west of the city centre and is part of an Urban Development Zone (called “Zone d’Urbanisation Prioritaire” ZUP), which was established towards the end of the 1960s. The area covers 54 hectares with approximately 10 kms of roads and has over 8 000 inhabitants. It mainly comprises blocks of flats, as well as 2 shopping areas built around two squares, amenities and public services (especially several schools...). A new tram line came into services in April 2 000 and enabled to improve the area transport services. Foreign inhabitants represent nearly 13% of the population. Single parent families and large families are strongly represented. The case area includes a high proportion of young people.

6.1.1 Terrain and nature

The terrain of the area is flat. The district was built at the end of the Sixties according to a very characteristic urbanist design which includes large multi-storey buildings with vast open public spaces and clear roads. The broad spaces between the blocks of flats are often grass-covered or planted with trees. Moreover the installation of a new line of tramway allowed to add vegetation, platform turfed in particular. This strong presence of green space comes to soften the austerity of the blocks of flats. The climate, under maritime influence, is temperate. One can characterize this zone like humid with soft temperatures.

6.1.2 Traffic system

The case area is bordered on the four sides by boulevards. The north one is by far the road most used, with 24 000 vehicles per day, and driving speeds are high on it. The other three boulevards were originally dual carriageways and have been redesigned to provide 2 lane roads when the new tramway line was implemented (mid-2000). Today these 3 boulevards are part of the urban area and traffic speed is moderate on them; some sectors have been transformed in 30km/h zone. Within the area, the streets are large with a low traffic, except one which is a rather important link north/south throughout the area. The inside area is also characterised by pedestrian “tracks” which wind between buildings, each one being the shortest way to the destination. The area is very

well served by public transport with one lane of tramway, many lines of bus and one multimodal interchange station. The large majority of accidents occurred on the boulevards surrounding the area.

6.1.3 Buildings

The area mainly comprises blocks of multi storey buildings built towards the end of the 1960s . On the east side, a part (quite 1/5) of the area comprises one family houses, some of them with gardens. Two shopping and services centre are located around two squares. The most important one is coupled with the intermodal interchange station. There are many shops for essential needs, as well as anomalous shops (jeweller, optician, driving schools, etc.) and services such as the post office and banks. The second one comprises shops for essential needs and public buildings. Also several schools are located in this area: nursery, elementary, secondary schools (general and/or technical training).

6.2 Amiens, Saint Leu

Type of the area	Mainly residential area + university centre + entertainment activities (restaurants ..)		
Size of the area	0,34 sq-Km	Distance from City Centre	0 Km (closed to the centre)
Inhabitants (1990)	2 355	Workplaces	745
Density (inh./sq.-km)	6 900	Main development time	1985-1990
Multi-storey buildings	20*	Terraced houses	80*
One family houses (terraced houses excluded)	0	Other	0

(* estimated value)

Amiens, a town with 130 000 inhabitants in a built-up area comprising 170 000 inhabitants, located in the North of France, was chosen for its dynamism with regard to the use of public space for developing alternative modes of transport to the car. The town has an action programme to develop areas surrounding schools, a traffic plan for 2 wheel vehicles, an Urban Mobility Plan.

Saint-Leu is located between the town centre (administrative services, shops, leisure amenities, the cathedral...) and the outlying areas. This old part of the town is established around several branches of the River “Somme” where there were small scale activities in the Middle Ages. After a period of significant decline, this neighbourhood has undergone major renovations: restoration of old buildings, construction of new homes, diversification of activities with the creation of a new university centre and leisure facilities. The area covers 34 hectares with approximately 7,8 kms of roads and has over 2000 inhabitants. It is characterised by a high proportion of students, retired persons and unemployed workers. Private cars are used far less than in the remainder part of the town; nearly 1 household out of 2 does not own a car.

6.2.1 Terrain and nature

The area is located around several branches of the river “Somme” and numerous footbridges connect the islands. Two sides of the area are bordered by larger canals. The branches of river were a base, since the Middle Ages, for small-scale activities. These

activities have stopped but the waterways recovered importance since some years, because of the tourist attraction they represent. So, many actions of development of the banks and constructions which border them were committed. The terrain of the Saint Leu is rather flat. It is located below the upper city centre. Several footbridges makes it possible to cross the canals; steps are used for access to the majority of them and, in rare cases, there are sloping approaches. As regards green space, the area is bordered in the east side by the “Saint Pierre” park which is a very large green leisure space. Green spaces inside the district are rarer and are limited primarily to; alignments of trees bordering the streets; some private green spaces located inside clusters of buildings, in the old part of the area; urban vegetation (lawns, private parks) surrounding the residential buildings or the university in the Western part of the area, of recent construction. The climate is temperate. Average temperature Min in January : 1,7°C ; average temperature Max in July : 23,5°C.

6.2.2 *Traffic system*

Saint Leu is bordered all around by boulevards, with high traffic. A rather important street goes through the area from north to south. In terms of safety, the most important difficulties are found on these main roads, except on one part of the south boulevard which has been transformed in zone 30 km/h. Within the area, there are two different configuration. To the east, the oldest part of the area, the network comprises small narrow and winding streets. Some of them are pedestrian streets and most of them can be considered as “woornef” because of their layout and the spontaneous pedestrians and car use. To the west, the layout is just the opposite, streets are larger and straighter. In this part, and more especially around the university, parking is intensive and generates problems (prohibited parking at street corners, on pavements, on pedestrian crossings ...). As concern public transport, the area is served by 4 bus lines.

6.2.3 *Buildings*

Saint Leu is an heterogeneous area. In the oldest part, to the east, there are many old homes (terraced low houses). There are also some clusters of premises which are used for tourist purposes: a line of restaurants with pavement areas and antique shops. To the west, there are far more modern buildings (blocks of flats) and in particular, several university buildings (schools, cafeterias and university residences, libraries, cultural centres etc...).