

Einar Lillebye

# THE STREET AS AN EXTENDED ROAD NOTION

The Architectural and Functional Significance of the Street as a  
Social Arena

Thesis for the degree of doktor ingeniør

Trondheim, January 2006

Norwegian University of  
Science and Technology  
Faculty of Engineering Science and Technology  
Department of Civil and Transport Engineering

NTNU  
Norwegian University of Science and Technology

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**The Architectural and Functional Significance  
of the Street as a Social Arena**

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Norwegian University of Science and Technology, in partial fulfilment of the  
requirements for the Dr.Ing.Degree.

Department of Civil and Transport Engineering  
Norwegian University of Science and Technology

**June 2007**



***The street as an extended road notion***Preface

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I would like to give thanks to principal engineer Tor J Smeby, architect Knut Selberg, Professor Karl Otto Ellefsen, Professor Birgit Cold, Professor Tore Sager and Professor Ola Bettum for professional aid and inspiration throughout my studies. Bettum has been my professional co-worker, not only in general, but also as the principal secretary for the "Urban life"- project and as author of the Oslo-publication. The UL- project, initiated and led by myself, was a time consuming and exciting challenge. The methodical approach towards street planning presented and assessed here, is based on the methods use in the project, developed by Professor Bettum and myself, and partly derived from the Danish architect Jan Gehl. I will like to thank Jan Gehl especially for inspiration and contributions. Finally a special warm thanks to my wife and daughters that have patiently ignored my mental absence and my humming PC during late nights of studies.

The thesis is dedicated to principal engineer Egil Lundebrekke who so sadly died during the summer 2000. Without his inspiration and backing, this thesis would never been realized.

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# TABLE OF CONTENTS

<b>PREFACE</b> .....	<b>I</b>
<b>Acknowledgements</b> .....	<b>II</b>
<b>Table of contents</b> .....	<b>III</b>
<b>Summary</b> .....	<b>X</b>
<b>PART A: INTRODUCTION</b> .....	<b>1</b>
<b>Chapter 1: CHALLENGE</b> .....	<b>5</b>
1.1 Preface.....	5
1.2 Current street planning and design.....	7
1.3 Architectural challenges.....	12
1.4 Functional challenges.....	15
1.5 Social challenges.....	17
1.6 Planning challenges.....	18
1.7 Planning challenges.....	19
1.8 Political challenges.....	20
1.8 Professional challenges.....	21
1.9 Professional challenges.....	22
<b>Chapter 2: MYTHS AND HYPOTHESIS</b> .....	<b>23</b>
2.1 Challenges and Myths.....	23
2.2 Technological Approach to Street Design.....	25
2.2.1 Mobility and Capacity.....	25
2.2.1 Mobility and Capacity.....	26
2.2.2 Road and Street Safety.....	26
2.2.3 Speed.....	27
2.2.5 Motorized Traffic Volume.....	29
2.2.6 Hypothesis 1.....	32
2.3 Architectural Approach to Street Design.....	33
2.3.1 The presence of architectural attractiveness.....	35
2.3.2 The absence of architectural attractiveness .....	41
2.3.3 Architectural attractiveness as a transformer of social activity.....	47
2.3.4 Hypothesis 2.....	51
2.4 Hypotheses review.....	52

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<b>PART B: THEORY AND METHODOLOGY .....</b>	<b>55</b>
<b>Chapter 3: HISTORICAL THEORY .....</b>	<b>57</b>
3.1 Preface .....	57
3.2 Social Urbanism prior to the Industrial Revolution .....	59
3.2 Social Urbanism prior to the Industrial Revolution.....	60
3.3 Industrialism .....	61
3.4 Urban Reconstruction .....	65
3.5 The Garden City Movement and its Aftermath .....	67
3.6 The Rise and Fall of Functionalism .....	70
<b>Chapter 4: THEORY AND METHODOLOGICAL STUDIES .....</b>	<b>79</b>
4.1 Preface .....	79
4.2 The relationship between form and culture .....	82
4.2.1 Theory .....	82
4.2.2 Methodology.....	82
4.2.3 Summary.....	85
4.3 The street as vital urban organ.....	86
4.3.1 Theory.....	86
4.3.2 Summary.....	88
4.4 How humans locate themselves in a city.....	89
4.4.1 Theory.....	89
4.4.2 Methodology.....	90
4.4.3 Summary.....	91
4.5 Livable streets.....	92
4.5.1 Theory.....	92
4.5.2 Methodology.....	93
4.5.3 Summary.....	95
4.6 The social inadequacy of modernistic public space.....	96
4.6.1 Theory.....	96
4.6.2 Methodology.....	97
4.6.3 Summary.....	103
4.7 "The City Street" – a Norwegian study.....	104
4.7.1 Theory.....	104
4.7.2 Methodology.....	106
4.7.3 Summary.....	114
4.8 Rediscovering the city.....	119
4.8.1 Theory.....	119
4.8.2 Methodology.....	120
4.8.3 Summary.....	125
4.9 New Urbanism.....	131
4.9.1 Theory.....	132
4.9.2 Methodology.....	133
4.9.3 Conclusion and Theoretical and Methodological Relations.....	136
4.10 The Street Enhancement Program.....	141
4.10.1 Theory.....	141
4.10.2 Methodology.....	144

---

<b>PART C: LOCAL EMPIRICAL RESEARCH AND REGISTRATION</b> .....	<b>149</b>
<b>Chapter 5: SOCIAL STREET ACTIVITY (UL Program)</b> .....	<b>151</b>
5.1 Preface.....	151
5.2 Registration Locations.....	155
5.2.1 Oslo.....	157
5.2.2 Trondheim.....	162
5.2.3 Bergen.....	166
5.2.4 Hamar.....	170
5.3 Physical Premises for Social Street Activity.....	174
5.3.1 General conditions.....	174
5.3.2 Street character.....	182
5.3.3 Offers.....	195
5.2.4 Accessibility.....	198
5.4 Factual Street Use.....	201
5.4.1 Motorized traffic.....	202
5.4.2 Public transport.....	202
5.4.3 Cyclists.....	203
5.4.4 Pedestrians.....	204
5.5 Characteristics of Social Street Activities.....	208
5.5.1 Local Background Information.....	209
5.5.2 Personal Information.....	209
5.5.3 Social Street Activity Specification.....	211
5.6 Synopsis.....	213
<b>Chapter 6: SOCIAL STREET ACTIVITY ASSESSMENT (SSAA METHOD)</b> .....	<b>219</b>
6.1 Preface.....	219
6.2 The Social Intent.....	222
6.3 The Social Arena.....	223
6.4 The Social Factor.....	224
6.5 The Social Comfort.....	225
6.6 The Social Street Activity.....	225
6.7 The Social Duration.....	227
6.8 Pedestrian Intensity.....	228
6.9 Social Performance Ratio.....	228
6.10 Parametric Relationship.....	229
<b>Chapter 7: REGISTRATION</b> .....	<b>233</b>
7.1 Preface.....	233
7.2 Individual Registrations.....	235
7.2.1 Oslo: Youngstorget / Stortorvet.....	236
7.2.2 Oslo: Torggata / Storgata.....	251
7.2.3 Trondheim: Olav Tryggvasons gate / Fjordgata.....	261
7.2.4 Bergen: Vågsbunnen / Strandgaten.....	273
7.2.5 Bergen: Torgallmenningen / Bryggen.....	285

---

7.2.6	Hamar: Stortorget and Østre Torg.....	297
7.2.7	Hamar: Torggata / Strandgata.....	308
<b>PART D: ANALYSIS AND CONCLUSIONS.....</b>		<b>319</b>
<b>Chapter 8: ANALYSIS.....</b>		<b>321</b>
8.1	Analysis Parameters.....	321
8.2	Parametric Differentiation.....	324
8.3	Individual Evaluations.....	327
8.4	Oslo: Youngstorget / Stortorvet.....	328
8.4.1	Summary of Data.....	328
8.4.2	Social Intent (A).....	329
8.4.3	Social Factors (B).....	330
8.4.4	Social Comfort (C).....	331
8.4.5	Social Duration (E).....	331
8.4.6	Social Performance Ratio (G).....	332
8.4.7	Social Street Activity versus Motorized Traffic Volume.....	336
8.4.8	Social Street Activity versus Architectural Attractiveness.....	341
8.5	Oslo: Torggata / Storgata.....	349
8.5.1	Summary of Data.....	349
8.5.2	Social Intent (A).....	350
8.5.3	Social Factors (B).....	350
8.5.4	Social Comfort (C).....	351
8.5.5	Social Duration (E).....	351
8.5.6	Social Performance Ratio (G).....	352
8.5.7	Social Street Activity versus Motorized Traffic Volume.....	356
8.5.8	Social Street Activity versus Architectural Attractiveness.....	361
8.6	Trondheim : Olav Tryggvasons gate / Fjordgata.....	366
8.6.1	Summary of Data.....	366
8.6.2	Social Intent (A).....	367
8.6.3	Social Factors (B).....	367
8.6.4	Social Comfort (C).....	368
8.6.5	Social Duration (E).....	368
8.6.6	Social Performance Ratio (G).....	369
8.6.7	Social Street Activity versus Motorized Traffic Volume.....	372
8.6.8	Social Street Activity versus Architectural Attractiveness.....	376
8.7	Bergen: Vågsbunnen / Strandgaten.....	386
8.7.1	Summary of Data.....	386
8.7.2	Social Intent (A).....	387
8.7.3	Social Factors (B).....	388
8.7.4	Social Comfort (C).....	389
8.7.5	Social Duration (E).....	389
8.7.6	Social Performance Ratio(G).....	390
8.7.7	Social Street Activity versus Motorized Traffic Volume.....	393
8.7.8	Social Street Activity versus Architectural Attractiveness.....	397



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8.8	Bergen: Bryggen / Torgalmenningen.....	401
8.8.1	Summary of Data.....	401
8.8.2	Social Intent (A).....	402
8.8.3	Social Factors (B).....	403
8.8.4	Social Comfort (C).....	403
8.8.5	Social Duration (E).....	404
8.8.6	Social Performance Ratio (G).....	405
8.8.7	Social Street Activity versus Motorized Traffic Volume.....	408
8.8.8	Social Street Activity versus Architectural Attractiveness.....	412
8.9	Hamar: Stortorget / Østre Torg.....	418
8.9.1	Summary of Data.....	418
8.9.2	Social Intent (A).....	419
8.9.3	Social Factors (B).....	419
8.9.4	Social Comfort (C).....	420
8.9.5	Social Duration (E).....	420
8.9.6	Social Performance Ratio (G).....	422
8.9.7	Social Street Activity versus Motorized Traffic Volume.....	425
8.9.8	Social Street Activity versus Architectural Attractiveness.....	429
8.10	Hamar: Torggata / Strandgata.....	436
8.10.1	Summary of Data.....	436
8.10.2	Social Intent (A).....	437
8.10.3	Social Factors (B).....	437
8.10.4	Social Comfort (C).....	438
8.10.5	Social Duration (D).....	438
8.10.6	Social Street Performance Ratio (G).....	439
8.10.7	Social Street Activity versus Motorized Traffic Volume.....	443
8.10.8	Social Street Activity versus Architectural Attractiveness.....	447
<b>Chapter 9: CONCLUSIONS</b>		<b>453</b>
9.1	Preface.....	453
9.2	Social Street Activity versus Motorized Traffic Volume.....	456
9.2.1	Very Motorized Traffic Volume (3+).....	459
9.2.2	High motorized Traffic Volume (3).....	461
9.2.3	Medium Motorized Traffic Volume (2).....	466
9.2.4	Low Motorized Traffic Volume (1).....	469
9.2.5	Zero Motorized Traffic Volume (0).....	471
9.3	Summary Conclusion Hypothesis 1.....	473
9.4	Social Street Activity versus Architectural Attractiveness.....	477
9.4.1	High Architectural Attractiveness (3).....	480
9.4.2	Medium Architectural Attractiveness (2).....	487
9.4.3	Low Architectural Attractiveness (1).....	492
9.5	Summary Conclusion Hypothesis 2.....	496

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<b>PART E: SYNOPSIS AND RECOMMENDATION</b> .....	<b>501</b>
<b>Chapter 10: SYNOPSIS</b> .....	<b>503</b>
10.1 Preface.....	503
10.2 UL program Assessment Summary.....	504
10.2.1 Youngstorget / Stortorvet.....	504
10.2.2 Torggata / Storgata.....	507
10.2.3 Olav Tryggvasons gate / Fjordgata.....	509
10.2.4 Vågsbunnen / Strandgaten.....	511
10.2.5 Bryggen / Torgallmenningen.....	513
10.2.6 Stortorget / Østre Torg.....	515
10.2.7 Torggata / Strandgata.....	516
10.2.8 Final Reflections.....	518
10.3 Analytical Conclusion / Hypothesis 1.....	522
10.4 Analytical Conclusion / Hypothesis 2.....	524
10.5 Theoretical Conclusions / Hypotheses 1 & 2.....	526
10.5.1 The relations between form and culture.....	526
10.5.2 The street as vital urban organ.....	528
10.5.3 How humans locate themselves in a city.....	529
10.5.4 Livable streets.....	530
10.5.5 The social inadequacy of modernistic public space.....	531
10.5.6 “The City Street” – a Norwegian study.....	533
10.5.7 Rediscovering the city.....	534
10.5.8 New Urbanism.....	537
10.5.9 The Street Enhancement Program.....	538
10.6 Final Conclusions.....	540
10.7 Some Appreciated Streets.....	542
10.7.1 Broadway, New York, USA.....	543
10.7.2 Oxford Street, London, England.....	544
10.7.3 Princess Street, Edinburgh, Scotland.....	545
10.7.4 Via Veneto, Roma, Italy.....	546
10.7.5 Avenue des Champs-Élysées, Paris, France.....	547
10.7.6 Las Ramblas, Barcelona, Spain.....	548
10.7.7 Newsky Prospekt, Saint Petersburg, Russia.....	549
10.7.8 Nanjing Road, Shanghai, China.....	550
10.7.9 Summary.....	552
<b>Chapter 11: RECOMMENDATION</b> .....	<b>555</b>
11.1 Preface.....	555
11.2 Physical Premises for Street Design.....	557
11.2.1 Identification of local identity.....	558
11.2.2 Street character.....	564
11.3 Identification of functional requirements.....	570
11.3.1 Offers.....	570
11.3.2 Accessibility.....	571
11.4 The differentiation of planning premises.....	572
11.4.1 Overall parameters.....	573

*The street as an extended road notion*

## Preface

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11.4.2	Local identity.....	573
11.4.3	Functional requirements.....	576
11.4.4	Dimensional parameters.....	579
11.4.5	Differentiation Diagram.....	581
11.5	Methodology Assessment.....	583
11.5.1	Premises for Social Street Activity.....	584
11.5.2	Factual Street Use.....	587
11.5.3	Characteristics of Social Street Activity.....	588
11.6	Factors that generate social activity.....	590
11.5.1	Functions.....	590
11,4,2	Accessibility.....	591
11.4.3	Overall conditions.....	592
<b>EPILOGUE.....</b>		<b>595</b>
<b>PART F: APPENDIX.....</b>		<b>599</b>
<b>BIBLIOGRAPHY.....</b>		<b>601</b>
	Primary Literature.....	609
	Secondary Literature.....	611
<b>FIGURE LIST.....</b>		<b>606</b>
	Chapter 1 :.....	606
	Chapter 2 :.....	607
	Chapter 3 :.....	608
	Chapter 4 :.....	610
	Chapter 5 :.....	614
	Chapter 6 :.....	617
	Chapter 7 :.....	617
	Chapter 8 :.....	620
	Chapter 9 :.....	624
	Chapter 10 :.....	626
<b>TABLE LIST.....</b>		<b>628</b>
	Preface :.....	628
	Chapter 4 :.....	628
	Chapter 5 :.....	628
	Chapter 6 :.....	629
	Chapter 7 :.....	630
	Chapter 8 :.....	638
	Chapter 9 :.....	643
	Chapter 10 :.....	644
	Chapter 11 :.....	644

## SUMMARY

The main title of this thesis (“The Street as an Extended Road Notion”) reflects the assertion that the street is a different and far more versatile arena than is the case for the road, and that this fact has to be acknowledged. If the road is classified as a transport arena and a generator of urban form, the street has additional functions such as being:

- **An element of urban form**
- **A commercial arena**
- **A cultural arena**
- **A social arena**

## Part A: “Introduction”

The subtitle “The architectural, functional significance of the street as a social arena” indicates that this aspect of the street and social street activities in particular has functional and architectural significance. Thus, it is the main aim of this thesis to identify this significance by assessing the fundamental query **why the human being is not used as a more frequent premise in urban and transport planning**, as the task of the planners actually is to create an optimal physical environment for their fellow citizens. In order to promote pedestrian use and social street activities in particular, human movement and behaviour might be used to:

- promote increased pedestrian use in the city centre
- create safe and usable physical environments for pedestrians
- create a physical urban environment that invites low car speed
- establish the factual effect from car traffic on pedestrian use

The latter aim is of particular interest as motorized traffic volume is an important premise in transport planning in both rural and urban areas. Consequently, this thesis is challenging one major professional myth: motorized traffic is a major restricting factor for social street activity, leading to hypothesis 1:

***A motorized traffic volume does not restrict social street activity.***

Furthermore, as the street is a physical environment of architectural significance, the architectural attractiveness of the environment has undoubtedly an influence on human activity. Therefore, human movement and behaviour might be used to:

- create an urban space of high architectural attractiveness
- to determine how transformation of the physical environment is affecting social street activity
- define whether architectural attractiveness has a positive or negative effect on generating social street activity

The latter aim is of particular interest as it seems to be an unquestionable truth that a physical environment of good architectural quality is generating social activities. Consequently, this thesis is challenging one major professional myth: architectural attractiveness is a major factor to generate social street activity, leading to hypothesis 2:

***Architectural attractiveness contributes insignificantly to social street activity.***

Part A is divided into two chapters:

- **Chapter 1:**        **Introduction**, presenting the challenges of current street planning and design.
- **Chapter 2:**        **Myths and Hypotheses**, presenting the two hypotheses for further assessment:
  - **A motorized traffic volume does not restrict social street activity.**
  - **Architectural attractiveness contributes insignificantly to social street activity.**

## Part B: “Theory & Methodology”

The art of assessing urban life has a long history: Especially over the last 50 years many professionals have presented studies with associated methodologies to describe and assess social street life. A collection of these studies is presented in Part B, “Theory and Methodology”, with the aim to appraise the final conclusions of the thesis. The Part B is divided into two chapters:

- **Chapter 3:**        **Historical Theory**, presenting a brief summing up of the historical conditions for urban planning with regard to human social relations.
- **Chapter 4:**        **Theoretical and Methodological Studies**, presenting some theoretical and methodological approaches to assess social street activity.

## Part C: “Local Empirical Research & Registration”

Feasible registrations and an applicable methodology have to be obtained in order to confirm or refute the presented hypotheses. Part C “Local Empirical Research and Registration” provide this in three separate chapters:

- **Chapter 5:**        **Social Street Activity** (UL program), presenting the methodology used by the UL program and applied in this thesis.
- **Chapter 6:**        **Social Street Activity Assessment** (SSAA method), presenting a supplementary methodology more adequately designed to confirm or refute the two presented hypotheses.
- **Chapter 7:**        **Registration**, presenting registration of data to be further analyzed.

## **Chapter 5:**

The thesis has applied the methodology derived from the UL program, the largest research program to assess urban life ever to be accomplished in Norway. The UL-program “**Urban life – the street as a social arena**” was introduced in 1995 by the Norwegian Public Roads Administration <sup>1</sup> and presented in four reports comprising Oslo, Trondheim, Bergen and Hamar (1997). 14 of the 27 streets and squares participating in the program have been selected to be further assessed in this thesis. They are presented in pairs to obtain comparable assessments.

**Youngstorget and Stortorvet**, Oslo

**Torggata (southern part)**, Oslo

**Olav Tryggvasons gate and Fjordgata**, Trondheim

**Vågsbunnen and Strandgaten**, Bergen

**Torgallmenningen and Bryggen**, Bergen

**Stortorget and Østre Torg**, Hamar

**Torggata and Strandgata**, Hamar

This UL methodology is purely descriptive, providing the planner with useful registrations (and information) about the characteristic of a particular location, the actual street use and the characteristics of such use.

## **Chapter 6:**

To be able to assess the available registrations and social street activity in particular, this thesis has initiated a supplementary methodology termed the SSAA method <sup>2</sup> (Chapter 6). This method has introduced the following seven parameters that are argued to be decisive to comprehend social street activity, namely:

---

<sup>1</sup> *Statens vegvesen Vegdirektoratet*

<sup>2</sup> *Social Street Activity Assessment methodology*

*The street as an extended road notion*

## Preface

- **social intent:** the initial intent leading towards a social street activity
- **social arena:** a physical setting that generates optional social street activity performed singly or with other people
- **social factor:** a factor that generates social street activity or encourages people to alter necessary activities into optional ones
  
- **social comfort:** the subjective and emotional attitude towards the social street activity

leading to the dependent variables:

- **social street activity:** the nature of optional social street activity performed singly or with other people
- **social duration:** the duration of the social street activity performed in minutes/ hours, and furthermore:
- **pedestrian intensity:** the amount of pedestrian traffic registered within a certain time period within a certain arena.

However, the elucidation of a true social arena and to what degree pedestrian intensity generates social street activity is determined by the ratio between social street activity and pedestrian intensity. This ratio describes the true level of social street activity independent of the level of pedestrian intensity and the corresponding social street activity. Thus, this thesis has introduced an eighth factor termed:

- **social performance ratio:** an indicator of factual social street activity being the ratio between social street activity and pedestrian intensity.



---

## Part D: “Analysis & Conclusions”

Part D presents the analysis and conclusions of the registration in Chapter 7, divided into two chapters:

- **Chapter 8:**           **Analysis**, presenting the analyses of the registrations.
- **Chapter 9:**           **Conclusions**, presenting a conclusion of the registration in Chapter 8.

### Chapter 8:

In the analysis the results of the following parameters are subjectively differentiated into scores to be able to determine feasible relationships:

- **Social Street Activity** is differentiated into three score categories:

*Low activity:*                   1: 0 – 30 people

*Medium activity:*               2: 0 – 100 people

*High activity:*                   3: > 300 people

- **Pedestrian Intensity** is differentiated into three score categories:

*Low intensity:*                   1: 0 – 300 people

*Medium intensity:*               2: 300 – 1 000 people

*High intensity:*                   3: > 1 000 people

- **Social Performance Ratio** is differentiated into three score categories:

*Low ratio:*                       1: 0 – 5%

*Medium ratio:*                   2: 5 – 15%

*High ratio:*                       3: > 15%

- **Motorized Traffic Volume** is differentiated into three score categories:

*Zero volume:*                   0: No traffic

*Low volume:*                   1: 1 – 5 000 AADT

*Medium volume:*               2: 5 000 – 8 000 AADT

*High volume:*                   3: 8 000 – 20 000 AADT

*Very high volume:*           3+: > 20 000 AADT

## *The street as an extended road notion*

Preface

- **Architectural attractiveness** is differentiated into three score categories:

*Low attractiveness*                    1

*Medium attractiveness:*        2

*High attractiveness:*            3

## Chapter 9:

Chapter 9 provides an evaluation of all the 14 selected and 12 additional arenas included in the UL program but not analyzed. The conclusions are derived by establishing the relationships between the parameters presented in Chapter 8.

To assess motorized traffic volume the following result were obtained:

SOCIAL ARENA  - Arenas in bold is selected for analysis - Arenas in normal is not selected for analysis	H MOTORIZED TRAFFIC VOLUME AADT 1: 1-5000 2: 5000-8000 3: 8000- 20000 3+: > 20000	D SOCIAL STREET ACTIVITY  1: 0-30 2: 30-100 3: > 100 <b>Sat / Tues</b>		G SOCIAL PERFORM. RATIO  1: 0-5% 2: 5-15% 3: > 15 <b>Sat / Tues</b>	
Elgsetergate	3+	1	1	2	2
Torget	3+	3	3	-	-
<b>Stortorvet (Oslo)</b>	3	3	2	3	3
<b>Bryggen</b>	3	3	2	2	2
<b>Fjordgata</b>	3	1	1	1	2
<b>Olav Tryggvasons gt</b>	3	1	1	1	1
<b>Strandgata (Hamar)</b>	3	1	1	1	1
Biskop Gunnerus gt	3	2	2	1	1
Småstrandgaten	3	1	1	-	-
<b>Stortorget (Hamar)</b>	2	1	1	2	2
Arbeidersam. Plass	2	2	2	1	2
Grønnegata	2	1	1	2	1
<b>Strandgaten (Bergen)</b>	2	1	1	1	1
<b>Storgata</b>	1	3	2	2	2
Pløens gate	1	2	2	1	2
Kirkeristen/ Storgaten	1	1	1	1	1
Jernbanetorget	1	3	3	1	1
Vaskerelven	1	1	1	-	-
<b>Youngstorget</b>	0	3	2	3	3
<b>Vågsbunnen</b>	0	3	3	3	3
Domkirken	0	3	2	3	3
<b>Østre Torg</b>	0	2	1	2	2
<b>Torggata (Hamar)</b>	0	2	1	2	2
Byporten	0	3	3	2	2
<b>Torgalmeningen</b>	0	3	3	1	2
<b>Torggata (Oslo)</b>	0	2	1	1	1

**Table 0.1:**  
*Summary of the  
relationship  
between Motorized  
Traffic Volume  
and, Social Street  
Activity and Social  
Performance Ratio*

**The street as an extended road notion**

Preface

In order to determine whether hypothesis 1 “A motorized traffic volume does restrict social street activity” is confirmed or refuted, the registrations, the analyses and the closing arguments provide the final conclusion that:

**hypothesis 1 is either confirmed or refuted.**

To assess architectural attractiveness the following result were obtained:

SOCIAL ARENA  - Arenas in bold is selected for analysis - Arenas in normal is not selected for analysis	I ARCHITECTURAL ATTRACTIVENESS  1: Low 2: Medium 3: High	D SOCIAL STREET ACTIVITY  1: 0-30 2: 30-100 3: > 100 Sat / Tues		G SOCIAL PERFORM. RATIO  1: 0-5% 2: 5-15% 3: > 15 Sat / Tues	
<b>Vågsbunnen</b>	3	3	3	3	3
Domkirken	3	3	2	3	3
<b>Bryggen</b>	3	3	2	2	2
<b>Torggata (Hamar)</b>	3	2	1	2	2
<b>Torgalmenningen</b>	3	3	3	1	2
Torget	3	3	3	-	-
<b>Youngstorget</b>	2	3	2	3	3
<b>Stortorvet (Oslo)</b>	2	3	2	3	3
Byporten	2	3	3	2	2
Arbeidersam. plass	2	2	2	1	2
Pløens gate	2	2	2	1	2
<b>Fjordgata</b>	2	1	1	1	2
<b>Torggata (Oslo)</b>	2	2	1	1	1
Kirkeristen/ Storgaten	2	1	1	1	1
<b>Olav Tryggvasons gt</b>	2	1	1	1	1
Jernbanetorget	2	3	3	1	1
<b>Strandgaten (Bergen)</b>	2	1	1	1	1
<b>Strandgata (Hamar)</b>	2	1	1	1	1
Småstrandgaten	2	1	1	-	-
<b>Storgata</b>	1	3	2	2	2
<b>Østre Torg</b>	1	2	1	2	2
<b>Stortorget (Hamar)</b>	1	1	1	2	2
Elgsetergate	1	1	1	2	2
Grønnegata	1	1	1	2	1
Biskop Gunnerus gt	1	2	2	1	1
Vaskerelven	1	1	1	-	-

**Table 0.2:**

*Summary of the relationship between Motorized Traffic Volume and, Social Street Activity and Social Performance Ratio*

In order to determine whether hypothesis 2 “Architectural attractiveness contributes insignificantly to social street activity” is confirmed or refuted, the registrations, the analyses and the closing arguments provide the final conclusion that:

**hypothesis 2 refuted.**

## **Part E: “Synopsis & Recommendations”**

Part E presents an analysis of the conclusions presented in Chapter 9, divided into two chapters:

- **Chapter 10:**      **Synopsis**, presenting:
  - A summary of the analytical conclusions of the registration analysis in Chapter 9 and how the conclusions compare to the relevant theories presented in Chapter 3, Part B.
  - A brief assessment of the methodology used compare to the relevant methodologies presented in Chapter 3, Part B and of an occasional selection of main streets worldwide to determine the factual relevance to the registered conclusion.
  
- **Chapter 11:**      **Recommendations**, presenting a conclusion of the analysis in Chapter 8, presenting
  - An assessment of the applicability of the UL methodology as a general methodology to obtain the premises for street design, or in fact a proposal for a methodology for street planning, and of the UL methodology to appraise social street activity.
  - Presenting factors that generate social activity derived from this thesis, what factors that generate social street activity and local challenges.

## Chapter 10:

By comparing the conclusion of the result of the analysis of the UL registrations with a subjective interpretation of the relevant theories presented in Chapter 3, Part B, there is a remarkable correlation between them as illustrated in Table 0.3. The result confirms the following final conclusion:

<u>Theories</u>	<u>Hypothesis 1:</u> A motorized traffic volume does not restrict social street activity		<u>Hypothesis 2:</u> Architectural attractiveness contributes insignificantly to social street activity	
	Confirming	Refuting	Confirming	Refuting
Gordon Cullen	X			X
Jane Jacobs	0	0		X
Kevin Lynch	0	0		X
Donald Appleyard		X		X
Jan Gehl		X		X
NIBR: "Bygata"		X		X
William Whyte	X		X	
New Urbanism		X		X
Street Enhancement Program	X			X
This Thesis	0	0		X

**Table 0.3:**

*A summary of the conclusion derived by the analysis of the studies presented in Chapter 3. "0" indicates that the hypothesis is neither confirmed nor refuted.*

On the basis of the empirical and the theoretical appraisals, the thesis is presenting the final conclusion:

- **Motorized traffic must be assessed as part of the built environment where it actually occurs, meaning that if the physical environment of a particular arena is designed to simultaneously cater for a high level of motorized traffic and a high level of pedestrians, human interaction and social street activity might occur if the setting is functionally, architecturally and culturally appealing.**
- **An architecturally attractive social arena generates social street activity in two ways: firstly fulfilling the need of people to surround themselves by a pleasant built environment, secondly attracting commercial and**

**cultural offers that attract people to perform social street activity. It is a generally acknowledged assertion that if the offers are sufficient to attract people, the offers and the people themselves are the main generators to invite social street activity. In this context architectural attractiveness might be regarded as an offer and not only as pleasant scenography for the art of social activity performance.**

***The street as an extended road notion***

Preface

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***The street as an extended road notion***

Preface

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**Part A:**  
**INTRODUCTION**

## ***The street as an extended road notion***

### Part A: Introduction (Chapters 1 & 2)

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During the last fifteen years of my professional life, I have described the street as an “extended road notion”. In this allegation lies an assertion that the street is a different and far more versatile arena than is the case for the road, and that this fact has to be acknowledged. Although the road is an important generator, or even a constituting element, in urban planning (though very few transport planners seem to have realized it), it is the street that represents the traditional, and one might add, true element of urban form, being an integrated and natural part of the built form of the city. If the road is classified as a transport arena and a generator of urban form, the street has additional functions such as being:

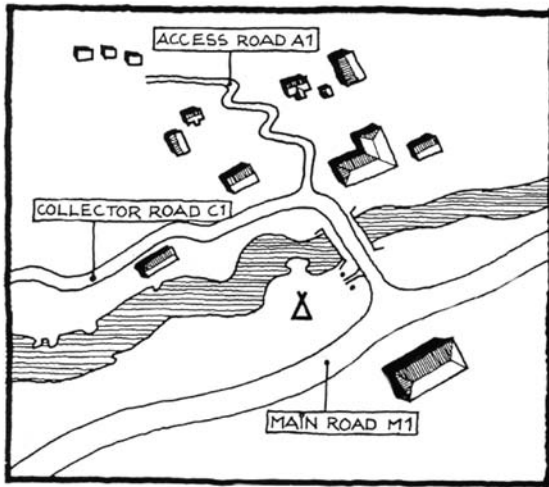
- **An element of urban form**
- **A commercial arena**
- **A cultural arena**
- **A social arena**

The road and street design manual “Veg- og gateutforming” (Road – and street design), published by the Norwegian Directorate of Public Roads in late 1992, introduced the first of the three above-mentioned assertions in practical road and street planning. The manual actually reintroduced “the street” as a new category of design by dividing the physical environment into three planning categories/ regions with its own particular premises (Fig 1.1 - 1.3). By introducing the “densely built area” (urban area) as a particular planning arena, and the characteristics of urban built form as a criterion for general road design, the traditional notion “road” was extended also to include the traditional “historical street”. As a consequence, the city itself, with its functional and social versatility, became a main premise for street design. However, the manual did not present any method about how to distinguish the characteristics of the three areas nor how to identify the new planning premises derived from the extended approach to street design. Consequently, current street planning practise is still characterized by a sectorized planning approach, meaning that streets too often are unilaterally planned focusing on traffic functions and ignoring the functional manifold of the city. It is the main aim of this thesis to identify and assess a specific aspect of this manifold, namely the social function of the street:

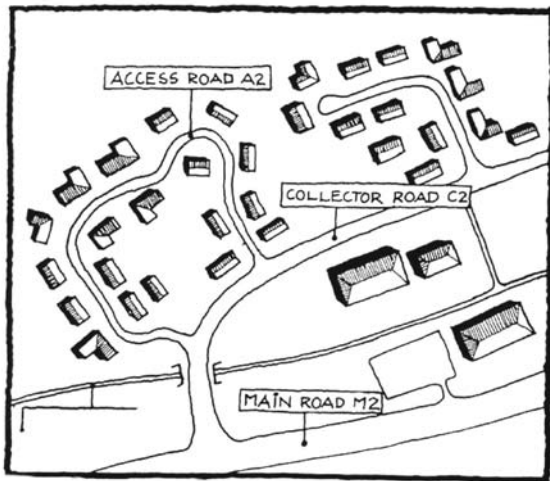
**How social activity is generated and how social activity might be implemented in street planning as a prime planning premise.**

**The street as an extended road notion**

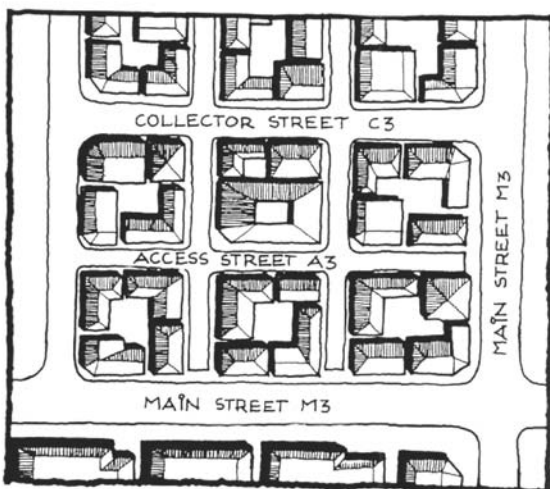
Part A: Introduction (Chapters 1 & 2)



**Figure 1.1:**  
*Typical Road Network in Rural Areas*



**Figure 1.2:**  
*Typical Road Network in Medium Density Built Up Areas*



**Figure 1.3:**  
*Typical Road Network in Urban Areas*

***The street as an extended road notion***

Part A: Introduction (Chapters 1 & 2)

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# **Chapter 1:**

# **CHALLENGES**

## **1.1 Preface**

Due to ever-increasing traffic volume and the effort to reduce traffic accidents, traffic systems separated according to their functions have been given strong priority from the 1960s. This also applies to cities and urban areas. The extremes being constituted by the urban motorway and the pedestrian street, the ideas related to a hierarchal divided traffic system have been unquestionable as a planning ideal within road and traffic planning up to the present day.

For instance, little emphasis has been put on streets and squares as social meeting places for city users. Traditionally the street has served as an arena for activities covering a blend of functions and traffic forms. However, throughout the last 50 - 70 years we have constructed us away from this. For some decades, the consequences of this transformation of the traditional street network have been the subject of a strengthening of professional scrutiny, including a growing criticism towards the rationalistic traffic planning as well as a fairly extensive research work programs. So far, hardly any similar systematic work has been carried out concerning the relation between street architecture, functional conditions and social life of the street.

Today the traditional urban centers meet with competition from new establishments that are based on road traffic, especially located within semi-urban areas or the Suburbia. This competition has brought increased attention to the fundamental circumstances regarding cities and urban traffic. The consequences of traffic separations have been questioned, and the problem crassly worded: "Are car-free cities the best ones?" The particular background for this is the experiences from cities and urban areas where pedestrian zones and other traffic regulations have proved to

***The street as an extended road notion***

Part A: Introduction (Chapters 1 & 2)

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form an unsatisfactory basis for trade as well as for social meetings. In several countries, especially in Europe, large funds are being spent on reconstructing cities and urban areas with a view to improvement of traffic solutions as well as the conditions for meeting places and social life. New concepts for a balanced, multiple traffic use of street space, particularly in small cities and urban areas, are now being tested under the slogan “from separation to integration”. There is a need to strengthen the professional background for the selection of solutions, in particular the design of measures necessary in different traffic situations. The interaction between different forms of traffic, other city functions and the social life present a complex challenge for urban design and traffic planning.

## 1.2 Current street planning and design

There are several streets that were being planned and designed by the Norwegian Public Road Administration during recent years. In 2004, Nedre Strandgate in Drammen (fig 1.4) with surrounding area (basically the riverside and the Bragernes tunnel) was awarded the “Vakre vegers pris” <sup>A1</sup>. This is not a street in a typical urban



**Figure 1.4:**  
*Nedre Strandgate in Drammen was awarded Beautiful Road Award for 2004.*

setting but rather a renewal of an existing diversion route from the E18 (the main motorway through the city) to the city center, probably being classified as a H2 (semi-urban) transport artery. The basis for the award was, according to the jury, that the builder, Statens vegvesen, had turned a run-down road “into a functional, attractive area communicating a specific identity of its own. The project has been undertaken with solid professionalism, a sense of aesthetics, imagination and creative enthusiasm” <sup>A2</sup>. What is primarily noticeable is that the builder has avoided over-designing meaning for instance that the width of the street is kept to a minimum and

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<sup>A1</sup> *Beautiful Roads Award*

<sup>A2</sup> *Quotation from the presentation leaflet (The Public Roads Administration)*

## ***The street as an extended road notion***

Part A: Introduction (Chapters 1 & 2)

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that the materials, such as light-fittings, vegetation and kerb-stones etc are carefully designed according to urban principles.

All recent Norwegian street projects are not as successful as Nedre Strandgate in Drammen. In fact they are untypical both in design and the genuine ambition in creating a transport artery with true urban qualities. K. Aamots gate in Oslo might be the symbol of the current street planning and design within the latter category; namely characterized by a lack of professional insight and comprehension and an emphasis of traffic function as a unilateral planning premise.



**Figure 1.5:**  
*An image of a part of Nydalen, K. Aamots gate shown to the right.*

K. Aamots gate is situated in Nydalen in the outskirts of the city center of Oslo. Nydalen was once an industrial site, recently being transformed into a trendy business area with the Norwegian School of Management (BI) and television studios as its main features. The builder had (and still has) a vision of creating a new city structure with buildings and transport arteries designed according to urban principles. Unfortunately this vision has not been fulfilled by the county council that has developed the infrastructure in the area including the design of transport arteries for cars. K. Aamots gate is one of the main transport arteries <sup>A3</sup> “feeding” the area from its surroundings. Despite the fact that K. Aamots gate has a reasonable modest traffic volume (approximately 9 000 AADT), a speed limit of 50 km/h and an intention by the builder

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<sup>A3</sup> *It is actually difficult to give this transport artery the correct term: road or street.*

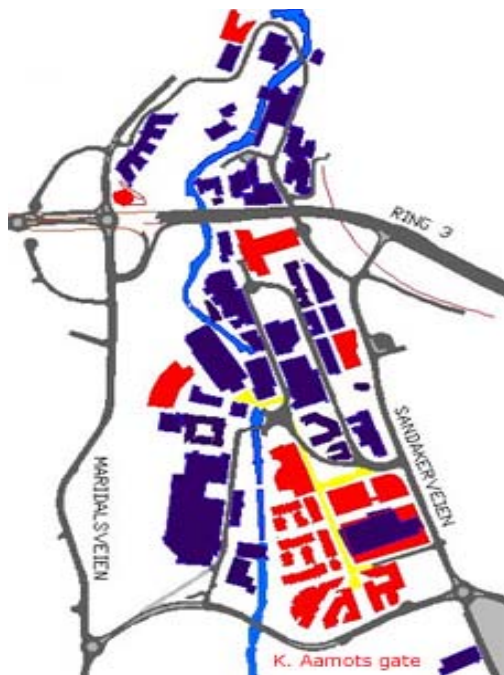


## ***The street as an extended road notion***

Part A: Introduction (Chapters 1 & 2)

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to create an “urban street”, the only association to an actual street is limited to the actual name “gate” (street). K. Aamots gate is physically deprived of any characteristics of a traditional street being designed according to the design manuals of the county council: as a road.



**Figure 1.6:**  
*A simplified map of Nydalen with K. Aamots gate located at the lower part. .*

The major part of Nydalen is situated within an area limited by Ring 3 (the main ring-road in Oslo), two existing streets Maridalsveien and Sandakerveien (both with historical significance) and K. Aamots gate (Fig 1.6). Although the name (street) indicates the intention of creating a street with urban significance, K. Aamots gate constitutes a total break from traditional urban principles being separated from the urban structure of the adjacent “centre” of Nydalen which is planned with building blocks according to an urban intention. Furthermore the design of the street lacks the characteristics of a street in every sense. The horizontal curvature including separate lines for turning, the width of the street by approximately 10 m, the relationship to the surrounding buildings or lack of such relationship (Fig 1.7 – 1.9), the street furniture with for instance road light fittings, guard rails, noise barriers constituted by approximately 2.5 m wooden fences (Fig 1.7) and so forth, give the street a distinct impression of being a road.

**The street as an extended road notion**

Part A: Introduction (Chapters 1 & 2)

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**Figure 1.7:**

*K. Aamots gate: located parallel to a local residential street with a noise barrier that is a typical characteristic of a road.*

*The street constitutes a total break with the existing urban structure.*



**Figure 1.8:**

*K. Aamots gate: The close relationship between the street floor and the surrounding buildings, a main feature of a street, is here ignored by the implementation of guard rails.*



**Figure 1.9:**

*K. Aamots gate: With a width of approx. 10 meters, the visual impression of the street does not correspond with the actual speed limit of 50 km/h.*

***The street as an extended road notion***

Part A: Introduction (Chapters 1 & 2)

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K. Aamots gate is not a distinctive case; it just represents one of many similar failed attempts by the road and street planner to create a street. It also represents an illustration of the total lack of professional insight and competence in the art of street design. This is an art with approximately 2000 years of history that has been ignored during an insignificant period of approximately 75 years. Unfortunately this is the period when the development of cities has been at its most intensive throughout the history of mankind. Furthermore, during this period public planning procedure has become so complex that all architectural and professional intentions seem to evaporate in the process. Additionally, the political aim to introduce a more intensive market orientated planning strategy disables the planner to undertake overall planning with architectural intentions. Thus, six challenges seem apparent in order to create feasible street design:

- Architectural challenges
- Functional challenges
- Social challenges
- Planning challenges
- Political challenges
- Professional challenges

## 1.3 Architectural challenges

Architectural challenges arise because the planning of urban transport arteries and of the street in particular requires an architectural understanding and insight into the significance of the urban components (including the street) and the art of urban design in general.



**Figure 1.10:**

*Akersgata, Oslo 1905. Akersgata used to be the main approach to the city center from north-west, comprising some of the most spectacular buildings in the Norwegian Capital. In 1905 this was a street in architectural harmony.*



*The street as an extended road notion*

Part A: Introduction (Chapters 1 & 2)



**Figure 1.11:**  
*Akersgata, Oslo 2005. A new traffic system necessitates the establishment of two roundabouts, so inconspicuous that 21 traffic signs have to announce their presence, ignoring the original architectural order and harmony of the street*

***The street as an extended road notion***

Part A: Introduction (Chapters 1 & 2)

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Roads have always represented an important influence on the location and growth of urban societies, but there has been little appreciation of their significance in the structural development of cities and towns. And yet transport arteries have a well-defined place in the history of urban design. This factor has an impact on future urban development, because roads and streets are such essential elements of design. Since World War II to the present day, the function of the street has changed dramatically.

From being primarily an element of urban structural form, during an historically insignificant period of 50 years, the street has become a major artery for various means of transportation. Consequently street design and the design of urban motorways in particular, are primarily based on traffic flow and road safety rather than being planned according to architectural principles, either as a contributing element of urban structures or as an individual architectural urban element. The role of the street (in a broad meaning of the word) as a former or transformer of urban structures is, however, unchanged. A consequence of this type of planning strategy is an urban development that has had the car and its functional requirements as a major planning criterion during the latter half of the 20th century.

## 1.4 Functional challenges

**Functional challenges arise because, despite the nostalgic approach to urbanism by the environment extremists, modern society has created an urban fabric which has functional accessibility as a condition for its survival.**

Consequently, transport arteries are essential in the structuring of urban form. This requires the builders of urban transportation systems to face their responsibility as urban developers. Furthermore, transport planners have to recognize themselves as urban designers: their professional aim, to marshal all traffic movements within a given transportation system, cannot necessarily apply in an urban fabric. Urban transportation requires solutions that are completely different from those for the rural highway. This most certainly applies to the planning of the street.

The most apparent characteristic of the street is its manifold of functions. Since the street was abandoned after the introduction of the functionalistic planning ideal, which still represents the base of the present transport planning model, the functional complexity of the city in general, and the street in particular, has increased alarmingly. This of course constitutes an additional challenge for the street designer than lack of competence towards street architecture. The function of the street might be differentiated into three categories: traffic, commerce and services.

At present the comprehension of the street as an architecturally significant element of urban form has gained wider ground among architects and transport planners. However, a major premise for the creation of built form, namely, functional requirements, hardly seems to enter the academic study of street architecture by some urban theorists; neither in describing the street as an architectural phenomenon nor as a generative element of urban form. Consequently, the discussion of urban components individually, disconnected from their relationship within the urban structure as a whole, may be deemed necessary in order to comprehend their specific architectural characteristics and manipulate them architecturally to deliver an articulate contribution to a deliberate overall plan.



***The street as an extended road notion***

Part A: Introduction (Chapters 1 & 2)

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**Figure 1.12:** *Houston, Texas has become an automobile-oriented city to the extreme. The historical street is totally absent leaving the city derelict and inhuman. 70% of the central business district is taken up by roadways and parking.*

The conditions that through history have formed particular urban components need to be discussed in this context. History reminds us that political, cultural, technological, social and economic forces, among others, have all contributed to various extents to the development of our built environment. This assertion applies to all types of physical formations, from simple industrial design products to complex urban structures. Thus when the functional requirements of the street fail to be included as a parameter in the study of its architectural significance, the study rarely becomes practically applicable. It remains an academic exercise that is perhaps of theoretical importance, but is of little relevance for the street planner who has to overcome fixed functional requirements.



## 1.5 Social challenges

**Social challenges arise because the city centres, and the streets in particular are such important social arenas, and all physical implementations within the urban fabric have some sort of social consequence.**

Physical planning may be described as the art of creating a physical environment with the purpose to satisfy the various requirements in society. Through the history of man, these requirements have changed radically from the first settlements approximately 10 000 years ago to the present urban structures. The evolution of the society has undergone an historical process where political, economic, cultural and technological forces, among others, all have contributed as basis for the development of our built environment. This environment has through all times constituted the arena for the social life of people.

The quality of urban social life has through modern planning history been highly sensitive to these ever-changing influences. The idealistic aim of many urban theorists and planners has therefore been to overcome social distress. Modernism also had this aim as its ideological bearing element. Nevertheless, functionalism not only failed to provide the social reforms intended, but it also ignored social relations as a premise for street and urban planning. This of course is discouraging because urban development and transformation is in fact equivalent to changing the social environment for people. Consequently architects and planners now have a great social responsibility that they are not educationally equipped to fulfil. Modernism taught us that within the urban space all technical aspects of its functional requirements have preference. If social requirements are considered in present planning, it is in most cases a consequence of these technical requirements, and not the opposite.

When some, for instance the Danish architect Jan Gehl, states that the urban space is for living and should be designed to invite optional public use, they are simply referring to the social significance of the historical town and to common design criteria that are too obvious to enter the planning vocabulary of the professionals. The task of the

***The street as an extended road notion***

Part A: Introduction (Chapters 1 & 2)

---

planner is to form the physical environment of his fellow beings. This is indeed a serious responsibility and requires social skills and insight that most planners fail to hold.



***Figure 1.13:***

*The 17th of May 1881 a spectacular crowd gathered despite a gloomy day for the unveiling of the statue of the poet Henrik Wergeland in "Studenterlund", Karl Johans gate, Oslo.*

## 1.6 Planning challenges

**Planning challenges arise because practise has proved that the intention of introducing the identity of the particular planning area as a design premise has not been fully fulfilled in practical planning.**

Experience from Norwegian planning practise has revealed several reasons for this. First, this planning approach does not apply to the traditional road planning practise in which street design does not apply. Second, the medium density built-up area has an indistinct historical and structural foundation being a product of the functionalistic planning strategy. Third, the intermediate transport artery between street and the semi-urban road does not exist: The urban motorway is a vision of the past and the urbanized boulevard has purely been realized on the drawing board, leaving the planner within the medium density built-up area in a state of professional confusion. Fourth, and probably most important, is the lack of planning methods to identify the characteristics of the specific areas in order to produce feasible planning premises. As the road planning procedures in rural areas basically follow a traditional pattern, planning in urban areas and particularly in so-called semi-urban areas (medium density built-up areas) necessitate planning procedures beyond what is provided for in existing manuals.

## 1.7 Political challenges

**Political challenges arise as public planning, including street planning and design, is subdued to political resolutions and regulations to such degree that creative, innovative and good solutions might be prevented.**

Political resolutions have determined the development and planning of the physical environment of cities at all times, both at an overall and a detailed level. However, the political influence within planning has changed dramatically during the last 50 years. At the time of Harald Hals (chief architect in Oslo from 1926 to 1946) all city plans were approved on a professional basis by the planning office. This meant that the architectural intentions set by the planner were actually realized. Both the overall road system and many popular residential areas of Oslo are direct results of the intentions presented by the 1929 general plan of Oslo (Fig 1.14). Parallel to the functionalistic planning approach and particularly the introduction of the Plan and Building Law in 1985, planning was democratized and subjected to a set of political resolutions and regulations. Final plans were now approved by the city council on a political basis. This trend has become more evident today as landowners are given such a strong influence on the planning process that overall planning has become virtually impracticable. Consequently, the task of the planning offices today is actually to coordinate separate, and often incoherent, plans for an area presented by individual landowners rather than produce an overall plan with one conceptual architectural intention.

The general transformation and planning of streets is a political matter. For instance, the accessibility for car traffic is determined politically as the politically determined establishment of pedestrian streets and traffic redevelopment measures alter the prevailing traffic pattern, decreasing car traffic in certain areas and increasing it in others. During the 1970s traffic redevelopment measures were the political answer to reduce car traffic in cities. Today such measures have no longer any political support

## ***The street as an extended road notion***

Part A: Introduction (Chapters 1 & 2)

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and are replaced by a political ambition to decrease car traffic by increasing public transport. However, increased and more sufficient public transport requires substantial financial investments and methodical plans of implementation. Furthermore such an approach necessitates a change in public attitude to give public transport priority to the car and above all, political measures to restrict car traffic accessibility.

Though, at present political resolutions apply within a limited time period. This might amount to an election period of four years during which the government and the various city councils attempt to realize their election pledges of for instance giving preference to public transport or bicycles. However, such short-term intentions can impede long-range urban planning strategies. Over the last few years public transport has been a hot political theme in Oslo, meaning that most political parties use the promotion of public transport (and especially the tram) to attract voters. In the promotion process, Freiburg in Germany and other public transport ideals are launched as new models for the public transport system in Oslo, without mentioning the fact that the transport system in Freiburg is a result of 60 years of continuous development and conscious planning. Consequently, to realize an urban overall transport system such as in Freiburg requires a planning process that has a longer perspective than four years.



**Figure 1.14:**  
*The 1929 General Plan for Oslo by Harald Hals.*

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## 1.8 Professional challenges

**Professional challenges arise due to the simple fact that street design, as previously mentioned, practically has been a non-subject for both transport planners and architects throughout the last seven decades.**

Examples in current street planning and design disclose a general lack of professional insight and comprehension towards the planning and design of streets. This is due to the fact that street design, as previously stated, has suffered the fate of falling into the void between the two professions, architecture (including urban planning) and transport planning. This is because street design is neither an architectural subject nor a subject within transport planning. Although, street planning and design has gained wider attention during the past decade, the education in the field being offered in the universities and schools of further education in Norway is highly inadequate. Consequently, the art of street design is generally in a deplorable state of incompetence with a result that streets are planned and designed as roads without the distinguishing elements of the street as described in this thesis. The reintroduction of urbanism as a professional subject in the late 1980s, headed by Karl Otto Ellefsen <sup>A4</sup> among others, put urban planning back on the professional agenda. However, there is an apparent professional incoherence between the academic approach to urbanism by the architectural education institutions and the pragmatic everyday planning policy by the public institutions such as Norwegian Public Roads Administration. How the academic approach to urbanism can be implemented into pragmatic street planning and design is therefore a challenge for both the educational and the public institutions. The various local institutions are in an exceptional position as the general professional competence in most planning offices is limited. Hence, the professional challenge is linked to the educational institutions such as NTNU, UMB and AHO and other technical colleges having street planning on their curriculum. It is vital that pragmatic street planning and design is given priority and not regarded as an occasional and secondary professional subject.

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<sup>A4</sup> *Professor and principal at the Oslo School of Architecture.*

# **Chapter 2:** **MYTHS AND HYPOTHESIS**

## **2.1 Challenges and Myths**

Chapter 1 presents six challenges that have to be overcome in order to create feasible street design:

### Architectural challenges

arise because the planning of urban transport arteries and the street in particular requires an architectural understanding and insight into the significance of the urban components (including the street) and the art of urban design in general.

### Functional challenges

arise because, despite the nostalgic approach to urbanism by the environment extremists, modern society has created an urban fabric which has functional accessibility as a condition for its survival.

### Social challenges

arise because the city centres, and the streets in particular are such important social arenas, and all physical implementations within the urban fabric have some sort of social consequence.

### Planning challenges

arise because practice has proved that the intention of introducing the identity of the particular planning area as a design premise has not been fully fulfilled in practical planning.

### Political challenges

arise as public planning, including street planning and design, is affected by political resolutions and regulations to such degree that creative, innovative and good architectural solutions might be prevented.

***The street as an extended road notion***

Part A: Introduction (Chapters 1 & 2)

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Professional challenges

arise due to the simple fact that street design, as previously mentioned, practically has been a non-subject for both transport planners and architects throughout the last seven decades.

Many of the challenges presented are linked to myths that characterize urban planning in general and street planning in particular. The myths are described here as predisposed attitudes generally derived from lack of professional insight and openness. Education is a prime source for the establishment of myths because most educational institutions generally offer specific and sometimes narrow subjects with occasionally restricted ability to acknowledge unfamiliar, although relevant, professional subjects. As the road planners have a pragmatic approach to street planning often regarding it as a tool to solve isolated functional problems regarding car traffic, architects might have a more overall planning approach but often over-estimate the importance of architectural quality in relation to functional requirements. Thus, this thesis argues that the prime challenge to promote optimal street planning and design is at a professional level. Both transport engineers and architects have to overcome predisposed attitudes towards social street use as a result of technological and architectural approaches to street design in order to establish how social street activity is generated. Another need is to find how social street activity can be implemented in street planning as a prime planning premise.



## 2.2 Technological Approach to Street Design

Some of the major technological considerations of modern planning of urban transport arteries, including the street, are:

- mobility and capacity
- road and street safety
- speed
- car traffic volume

Consequently, traditional premises of street design have been primarily based upon physical and mathematical quantities with the rural road as a planning model in landscape, rural, semi-urban or urban settings. The technological approach to street design has therefore been the functional requirements of the car as the architectural aspect of the street was abandoned during the early days of Functionalism (as described in chapter 3). The cultural, commercial and above all the social aspects hardly were considered.



**Figure 2.1:**  
*Technical devices  
are a natural part of  
the street scene.*

## **2.2.1 Mobility and Capacity**

The function of the road and street network is to provide optimal transportation for persons and goods. Transport is an important welfare benefit and a vital contributing factor for trade. According to the new road and street manual by the National Road Administration <sup>A5</sup>, the urban transport system must be developed according to environmental principles with a balance between capacity on the main road network and an acceptable traffic load within the city centre. The current situation with intensive car queues in major cities and recent prognosis indicating a further increase in urban car traffic, calls for new means to reduce car growth with a simultaneous increase in public transport, bicycle and pedestrian use in city centres. However, an increase in pedestrian use requires an understanding how the city actually is being used by its inhabitants and how the street actually is working as a social arena. This knowledge is totally absent in any public planning and design manuals and there is little determination to acquire such knowledge. Therefore, one might ask:

- **Why is it that urban human movement and behaviour are not a prime premise in planning to promote increased pedestrian use in the city centre?**

## **2.2.2 Road and Street Safety**

Today it is declared at national level that all transport planning, including street design, should be based on the zero-vision, meaning that no person should die or be permanently injured due to traffic accidents. The ethical foundation of this vision is that every individual is unique and cannot be replaced by other types of values. Consequently, the road – and street system should be designed according to optimal knowledge in promoting correct and secure behaviour among all traffic groups and furthermore provide protection against fatal consequences due to misbehaviour. Within cities and villages the main objective is to provide optimal safety for pedestrians, knowing that most injuries occur while crossing the street. The means to

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<sup>A5</sup> *To be published during the spring 2007.*

## ***The street as an extended road notion***

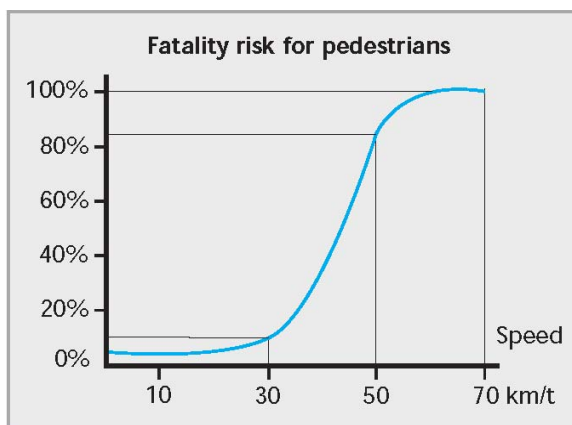
Part A: Introduction (Chapters 1 & 2)

achieve this are low car speed and well-designed crossings. Such crossings are usually represented by either raised zebra crossings or the extreme solutions of pedestrian bridges or pedestrian subways. Experiences tell us that the latter implementations in some cases are hardly used due to the fact that they represent extensive detours (bridges) or unpleasant and insecure environments (subways). Thus, in most cases pedestrian safety is resolved by technical means without considering factual human movements and behaviour. This does not comply with the objective of the zero-vision to promote correct and secure behaviour among all traffic groups, including pedestrians. Therefore, one might ask:

- **Why is it that human movement and behaviour are not a prime premise in planning to create safe and usable physical environments for pedestrians?**

### **2.2.3 Speed**

Speed is, or should be, a prime premise for road – and street design. The new road and design manual suggests that roads and streets should be designed on the basis of the notion “desired speed limit” as opposed to the traditional dimensional speed. Dimensional speed requires an approximately 10% more road capacity (road widths and curvatures) compared to a road designed to meet the requirements of the desired speed, resulting in speed reduction implementation such as bumps etc. Low speed is the key means to meet the intention of the zero-vision as described above, especially in urban areas which were most traffic accidents occur. Thorough research has ascertained that 30 km/h is the optimal speed in streets to avoid fatal accidents (fig 2.2).



**Figure 2.2:**  
*The fatality risk for pedestrians to be hit by vehicles at various speeds.*

## ***The street as an extended road notion***

Part A: Introduction (Chapters 1 & 2)

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The objective to design roads and streets according to a desired speed limit actually means that the road and the street visually appear in such a way that car drivers find it natural to keep to the set speed limit. When it comes to streets, the familiar strategy implies narrow street width and an intimate visual street room giving the car driver the impression of being underprivileged. In fact, the streets that have the best impact on reducing car speed is the ones with a manifold of functions, compelling car drivers to subordinate themselves to the chaotic atmosphere of the surroundings (fig 2.3).



**Figure 2.3:**

*Bogstadveien, Oslo, a main route from the city centre to the western suburbs but also by far the most popular shopping street in Norway despite a chaotic traffic environment and limited space for pedestrian activity.*

Such design strategy is well known through the R&D program “Street Enhancement Project”<sup>A6</sup>, the project “Traffic Management by Design”<sup>A7</sup> and the R&D program “The Life of the City- the Street as a Social Arena”<sup>A8</sup> (henceforth referred to as the UL-

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<sup>A6</sup> A P&D program launched by the Directorate of Public Roads in 1990; the best documented program ever in the history of the directorate

<sup>A7</sup> A P&D project, well documented but without significant validity.

<sup>A8</sup> A P&D program launched by the Directorate of Public Roads in 1995 (see chapter 5)

## ***The street as an extended road notion***

Part A: Introduction (Chapters 1 & 2)

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program), all launched with the intention to introduce other planning premises for street design than the requirements of the car. Although being familiar, they are not necessarily recognized by most transport planners. Requirements associated with car capacity, car accessibility and maintenance still have precedence in road and street design despite the fact that such a planning approach requires physical devices such as for instance bumps to avoid high car speed. Therefore, one might ask:

- **Why is it that human movement and behaviour are not a prime premise in planning to create a physical urban environment that invites low car speed?**

### **2.2.5 Motorized Traffic Volume**

Motorized traffic volume is probably the most decisive parameter in planning and design of roads and streets. Traditionally traffic volume is based on a traffic growth prognosis with a 20 years perspective. The new road and street manual stresses that the urban road and street network should rather be designed according to a balanced traffic volume according to the environmental capacity level of the specific city/ urban areas. This capacity level must be estimated locally, for instance how much motorized traffic a particular street can absorb.

However, such environmental capacity differs greatly from one location to another. Thus motorized traffic volume related to traffic problems is a relative notion. In comparison to south and central European standards, Norway has no traffic problems. If an inhabitant of for instance Rome was invited to Oslo to confront its alleged traffic problems, he would not comprehend what the problem was. Concurrently, if a person from for instance a remote Finnmark setting experiences the traffic in Oslo he will probably be puzzled how the Oslo inhabitants could cope with its immense traffic problems. Consequently, traffic volume and traffic problems have to be defined according to culture, experience and furthermore according to a given geographical setting.



## ***The street as an extended road notion***

Part A: Introduction (Chapters 1 & 2)

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**Figure 2.4:**

*Traffic chaos in Paris. The heavy ten lanes traffic of approximately 150 000 AADT on the Avenue des Champs-Élysées does not restrict it from being one of the greatest tourist magnets in the world.*

Norwegians have a tendency to accept a high traffic volume abroad but to be very restrictive on the domestic arena. It may seem typical for a local politician in Oslo to condemn a traffic volume exceeding a car traffic volume of 15 000 AADT on the proposed Nyland allé in Bjørvika and simultaneously enjoy a glass of exquisite red wine in one of the many street cafés situated on the most visited street in the world, Avenue des Champs-Élysées (Fig 2.4), accompanying a car traffic volume of 150 000 AADT. This seemingly paradoxical attitude is not limited to politicians, but represents the most robust myths among urban transport planners. Educational tradition has indoctrinated the transport planners to believe that car traffic and pedestrian activity should be separated and the present zero-vision provides them with a professional and political legitimation. Therefore, one might ask:

- **Why is it that human movement and behaviour are not a prime premise in planning to establish the factual effect from car traffic on pedestrian use?**

***The street as an extended road notion***

Part A: Introduction (Chapters 1 & 2)

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**Figure 2.5:**

*Manhattan; the word metropolitan is a major tourist attraction despite traffic chaos and a total absence of pedestrian streets. Here, represented by street activity on Broadway at Union Square.*

## 2.2.6 Hypothesis 1

In the context of establishing how social street activity is generated and how social activity can be implemented in street planning as a prime planning premise, traditional street planning with an emphasis on technical requirements ignores the question of why urban human movement and behaviour is not a prime premise in the planning:

- **to promote increased pedestrian use in the city centre?**
- **to create safe and usable physical environments for pedestrians?**
- **to create a physical urban environment that invites low car speed?**
- **to establish the factual effect of motorized traffic on pedestrian use?**

Firstly, urban human movements and behaviour must be defined and appraised by the planner in such a way that the results are made applicable for design work. In short, the planner must acknowledge the basic social aspects of urban street activity.

Secondly, the prime obstacle to impede urban street activity must be fully determined. The various professional fields involved in street planning and design (engineers, architects and sociologist among others) have different answers to what such obstacles are. It is an assertion by this thesis that among conventional transport planners the typical answer seems to be “traffic volume”. This seems to be a convincing and a professional recognized fact that influences all present urban transport planning.

This assertion has to be confirmed or invalidated in order to give applicable answers to the four above-mentioned issues. Thus this thesis is presenting a simple, but not insignificant hypothesis for further review:

***A motorized traffic volume does not restrict social street activity.***



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## 2.3 Architectural Approach to Street Design

Since the Renaissance period architectural theorists have describes the street as an urban component and as an architectural element, both being equally important to comprehend the street as a planning category. This knowledge was totally ignored by Functionalism which condemned the street as a transport artery and as a structural part of the urban form. The introduction of the segregated urban road system that replaced the historical street, made the history of street architecture redundant both as an educational subject and as an aspect of planning. Simultaneously, the architectural profession has outdistanced itself from urban planning and become occupied with the design of the monumental building. In their yearning to create the immortal monument of great art, the architects have since the release of general car-sales in 1960 willingly entrusted the planning of urban transport arteries to road engineers. It is therefore curious to observe that some architects condemn such street projects after their completion for their architectural imperfection.

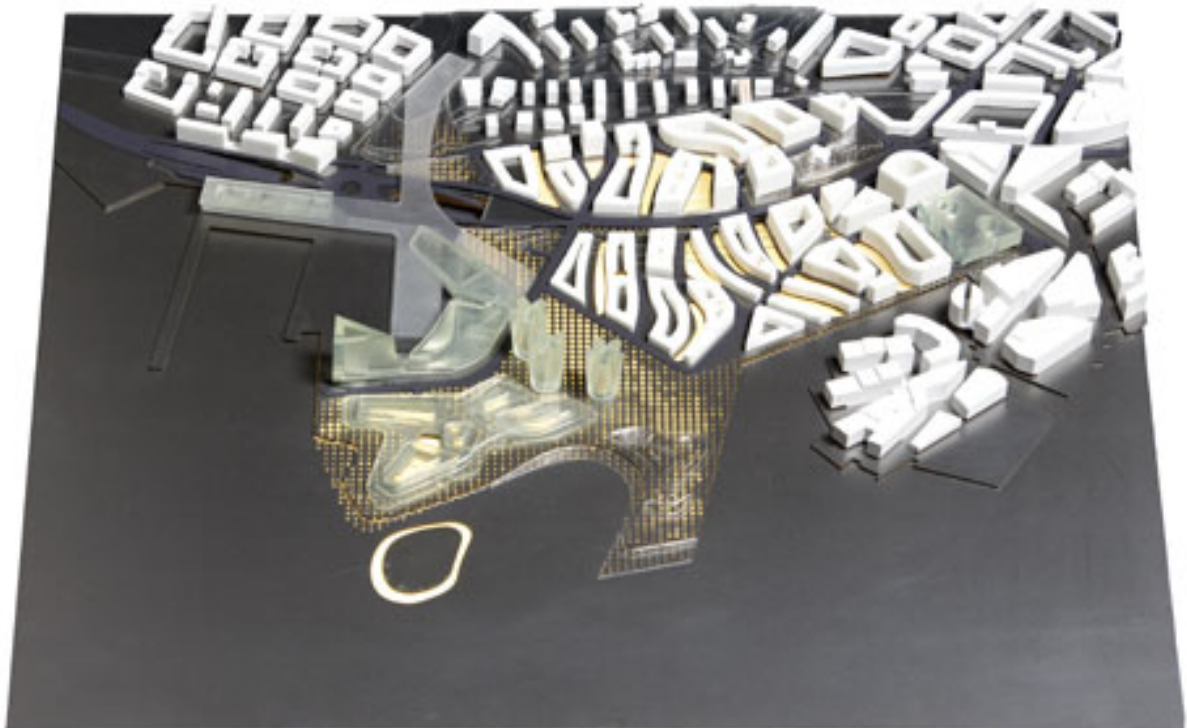
As Section 1.8 describes, urbanism was reintroduced as a professional subject in the late 1980s, though primarily at an academic and a visionary level. Numerous architectural competitions within urban design themes have been arranged since, and have received extensive attention by the public. Bjørvika in Oslo is probably the most published example and Filipstad in Oslo was the most recent competition that was made public in January 2006 (Figs 2.6 & 2.7). Most of these projects signify a high and spectacular architectural standard. However, one might ponder why these highly skilled architectural intentions hardly seem to reach pragmatic street design. Also do these proposed urban spaces of architectural genius fulfil the basic need of humans in presenting factual social arenas? A third question is in what way does high architectural quality and attractiveness generate social activity within the urban space and in the street in particular?

**The street as an extended road notion**

Part A: Introduction (Chapters 1 & 2)



**Figure 2.6:**  
*Limited Urban Design competition for Filipstad,Oslo. Design proposal presented by Arne Henriksen Arkitekter AS.*



**Figure 2.7:**  
*Limited urban design competition for Filipstad Oslo. Design proposal presented by Space Group.*

## 2.3.1 The presence of architectural attractiveness

As Section 1.2 indicates, the architectural profession has entered the scene of street planning and design during the two last decades. “Vakre Vegers Pris” is meant to be an aesthetical hallmark and a motivation to produce projects of high architectural quality. In addition to Nedre Strandgate in Drammen, four street projects have received this award, Vetr lidsallmenningen in Bergen (Figs 2.8 & 2.9) and Storgata in Drøbak (Fig 2.10) being the two projects worth of mentioning.

### Vetr lidsallmenningen, Bergen/ Storgata, Drøbak



**Figures 2.8 (left) & 2.9 (right):**

*The simplicity of Vetr lidsallmenningen by the end of the 1900<sup>th</sup> Century (fig 2.8) has been re-established by the rehabilitation in 1992 (fig 2.9), deservedly awarded the “Vakre Vegers Pris” in 1993. The entrance to Fløybanen appears at the end of the street.*



**Figure 2.10:**

*Storgata in Drøbak in all its glory, received the “Vakre vegers pris” in 2002.*

## ***The street as an extended road notion***

Part A: Introduction (Chapters 1 & 2)

---

The street architecture of both Vetrilidsallmenningen in Bergen and Storgata in Drøbak represent a design of high standard and professional insight. The architectural impression of the street floor and the street furniture is simple and logical blending exquisitely into the built form of the surrounding building environment in striking contrast to many over-designed street projects. So, has the successful and celebrated rehabilitation of the two streets generated increased social street activity?

According to the administration of Frogn Municipality the social activity of Storgata in Drøbak has increased in the summer season by 75% but has remained unchanged during winter <sup>A9</sup>. The increase is, according to the administration, due to enlarged pavement widths and a rebuilt market place being better equipped to house market stalls and (relatively) large crowds. Furthermore, some new outdoor cafés have generated more social activity as they invite strollers to sit down and stay to enjoy a cappuccino or a beer.

Vetrilidsallmenningen is located in an entirely different setting than Storgata in Drøbak. The street represents the doorway to Fløybanen, the 3<sup>rd</sup> greatest tourist attraction in Norway and used to be one of the most beautiful and evocative streets in Bergen before being invaded by car traffic. Its glory and simplicity has been re-established in the rehabilitation in 1992 illustrated by Fig 2.9, deservedly awarded the “Vakre Vegers Pris” in 1993. From being a street dominated by car traffic and trivial specialist shops for meat and vegetables etc, it is now an important social arena and a major tourist route with exclusive shops adapted to tourism. Due to an intensive traffic reorganizing program the car traffic has decreased. However, kerb car parking is still available but visibly not given priority. Although the width provided for car traffic is still massive, one of the major physical features is the enlargement of the pavements by 2,5 times providing space for social activity and the intensive pedestrian stream to and from Fløybanen. The statuses of the adjacent shops and dwellings have rocketed and so has the property values.

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<sup>A9</sup> *Drøbak is a typical summer attraction despite being the declared residence of Father Christmas.*



## Larvik Torg, Larvik

Storgata in Drøbak and Vetrilidsallmenningen in Bergen are two success stories. However, there are seemingly numerous failed attempts to create social arenas by architectural means. Larvik Torg (Fig 2.11) might be described as one of many examples. Larvik Torg was featured in the Norwegian review of architecture “Byggekunst” in 1990 as a celebrated example of a visionary design for an urban space, typical of the time overloaded by architectural design features crying for attention. The simplicity of the original market place has been replaced by a visual chaos. Although this description of the architectural quality of Larvik Torg is highly subjective, very few seems to appreciate its architectural attributes. It is commonly held that the presence of the market square has a contributing effect to limit social activity in the Larvik town centre <sup>A10</sup>.



**Figure 2.11:**

*Larvik Torg, the ultimate car park lid and an exhibition of the wide collection of “Larvikitt”, a local species of rock having received international recognition.*

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<sup>A10</sup> *And, apparently, when the author Ingvar Ambjørnsen, originally a native, becomes too overwhelmed by the frantic urban life of his hometown Hamburg, he becomes*

## ***The street as an extended road notion***

Part A: Introduction (Chapters 1 & 2)

---

### **Postbygget, Oslo**

Another interesting example is the present Postbygget in Oslo, once the disreputable Postgirobygget. Ever since its erection Postgirobygget has negatively influenced towards social activity through its discouraging visual impact and a reputation of being the ugliest building in the country. Today, the building has been added 4-6 floors and visually divided into two separate units being transformed into one of the most prestigious office blocks in Oslo. This rehabilitation has contributed strongly to raise the status of the surrounding area and will hopefully attract investors and the public to establish new developments that may increase the environmental impact and the general status of the street further.



**Figure 2.12:**

*Postbygget in Oslo contributes to the visual image of down-town Manhattan, but no effort is so far being made to transform the street from anything else than a car traffic route.*

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*restful after zooming in on the interactive web-camera that is recording the inactivity of the seemingly permanently derelict Larvik Torg..*

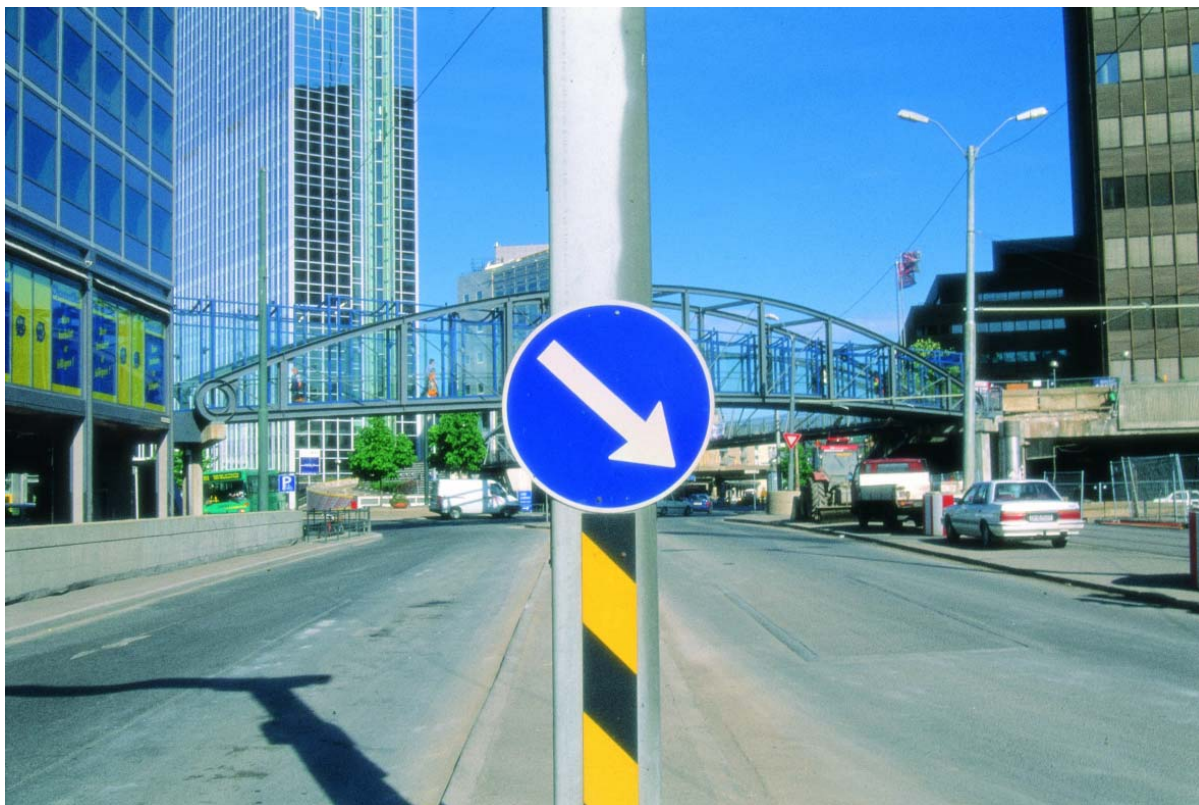


## ***The street as an extended road notion***

Part A: Introduction (Chapters 1 & 2)

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At present a new main plan is being developed with the intention to increase the aesthetical impression of the street and reorganize the complex transport functions. As part of this effort a new zebra crossing outside Postbygget is being suggested at street level, a fundamental break from the present solution which implies that two pedestrian bridges is the only feasible street crossing alternative. This new planning approach to allow pedestrians to become a true part of the multifunctional complexity of the street is a direct consequence of the rehabilitation of Postbygget. The revitalization of the area due to the rebuilding of Postbygget, including the location of the new main entrance directly facing the main street, should inspire planners to create a street that is accessible for people allowing both sideways and crossways activities within the street. In such a way Biskop Gunnerus gate might extend its function as a transport artery to attract social activity.



**Figure 2.13:**

*Despite having a unique urban structural setting, Biskop Gunnerus gate is a derelict and neglected transport route generating nothing to social activity. Postgiroybygget to the right represents a strong contributory element.*

***The street as an extended road notion***

Part A: Introduction (Chapters 1 & 2)

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The above examples illustrate that “so-called” architectural quality has diverse effect on social activity in streets and squares. Why do some projects contribute to a physical urban environment that generates human activity and some not? Therefore, one might ask:

- **Why is it that human movement and behaviour are not a prime premise in planning to create an urban space of high architectural attractiveness?**



## 2.3.2 The absence of architectural attractiveness

As it is seemingly difficult to establish convincing evidence that the architectural attractiveness of the physical environment has any decisive affect on the social activity in streets and squares, general experience has proved that the absence of architectural quality might have a degenerating effect on social activity and social behavior. The assertion that the present Postbygget prior to its rehabilitation generated a negative influence on social activity through its discouraging visual impact, illustrates this fact. Furthermore, the social failure of many post-war functionalistic housing estates, described by the attack on city planning and design by the theorists Jane Jacobs and Jan Gehl (among others) <sup>A11</sup>, provide convincing illustrations of how inadequate planning affects social activities and interaction between people (Fig 2.14). However, there is usually a set of factors that might explain why a physical environment influences social behavior positively or negatively, the absence of architectural attractiveness being one aspect.



**Figure 2.14:**

*Some of the modernistic housing estates of the 1960s did not invite social interaction between people. The sign "it is nice to live nicely" reminded the inhabitants of the planning aim that was never to be fulfilled.*

A physical setting of poor or mediocre architectural quality might provide feasible conditions for social gatherings provided that a social environment is established. Two examples from Oslo indicate this: the north part of Torggata and Bogstadveien in Oslo.

<sup>A11</sup> See Chapter 4, especially Sections 4.3 & 4.6

## *The street as an extended road notion*

Part A: Introduction (Chapters 1 & 2)

### Torggata (northern part), Oslo



**Figure 2.15:**

*The northern part of Torggata, Oslo indicated in yellow. Youngstorget indicated with yellow to the bottom left. Grünerløkka situated at top center.*

The northern part of Torggata is open for traffic and represents a natural pedestrian route from the core of the city (Youngstorget etc) to the residential area of Grünerløkka, a revitalized borough of Oslo being gentrified during the two last decades. This part of Torggata has relatively heavy traffic, a chaotic traffic situation (primarily due to a separate bicycle lane which is always occupied by parked cars, Fig 2.16), a discouraging aesthetical impression (poor maintenance and building standard) and relatively narrow pavements. However, despite all these negative elements, trade and urban life is blooming. There are probably as many people here as in the rehabilitated pedestrian part of Torggata. How can this be explained? The area adjacent to this part of Torggata has been vitalized during the last decade. In addition to the revitalization effect that has contributed to the gentrification of Grünerløkka (Fig 2.15), the area itself has been increasingly inhabited by second generation immigrants who have introduced a new urban culture. Furthermore, a large complex of student digs situated near by, affects the social life of this part of Torggata positively. This implies strengthened local engagement and extended commercial offers for the local community.

***The street as an extended road notion***

Part A: Introduction (Chapters 1 & 2)

---



**Figure 2.16:**

*The northern part of Torggata towards Hausmanns gate, illustrating the traffic chaos as the separate cycle lane (to the left) is occupied by lorries despite the physical separation element.*

Consequently, a different and more exotic urban life and renewed offers, for instance a wide range of vegetable and fruit shops, has generated increasing attention from non-locals giving the area a general boom. The commercial and cultural offers in this part of Torggata, differ from the pedestrian part as very few chain shops are found here. This provides the total area with a great variation in commercial offers, appreciated by both the locals and the general public. Three main aspects might be decisive for the urban vitalization of the street:

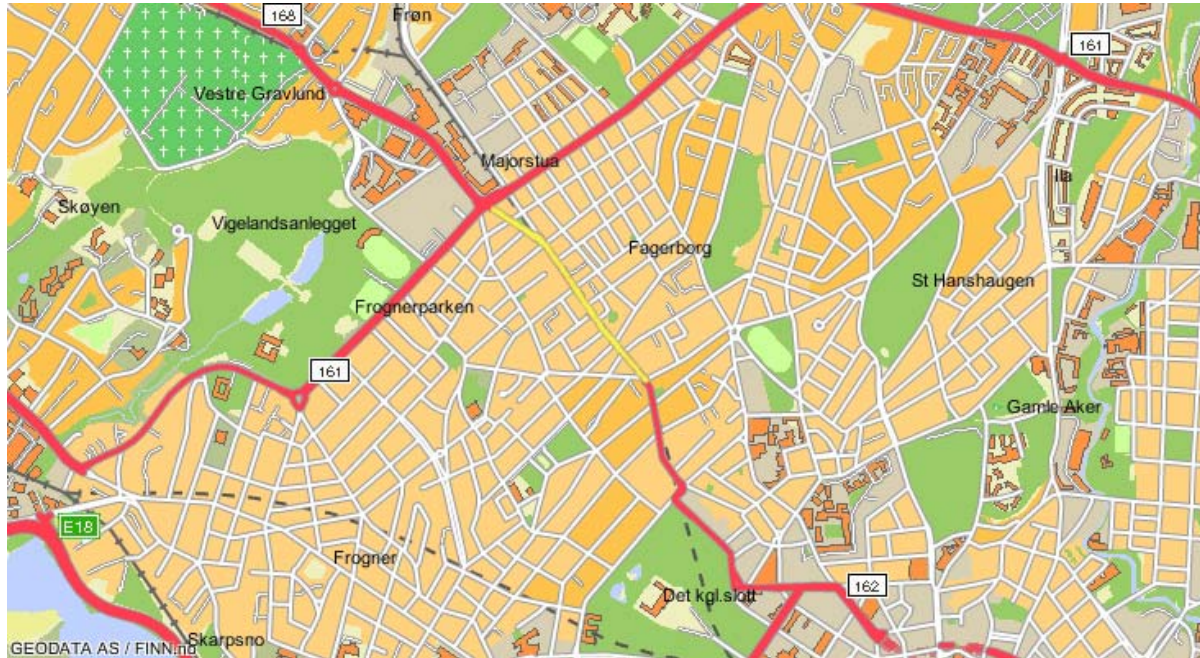
- the street being the local shopping location and gathering point of the surrounding area
- the area has attracted inhabitants with a strong urban tradition
- the street being the main pedestrian and bicycle route from the city centre to the popular residential area of Grünerløkka



## *The street as an extended road notion*

Part A: Introduction (Chapters 1 & 2)

### Bogstadveien, Oslo



**Figure 2.17:**  
*Bogstadveien, Oslo indicated in yellow.*

Bogstadveien is situated in the western part of the city centre of Oslo, being an approximately one mile long shopping street running from Majorstua towards the core of the city centre. This is the ultimate shopping street in Norway with the highest estate values for both dwellings and commercial properties. All the chain shops are present in Bogstadveien and the main object of being present is the fact that they have to be there to expose themselves. If a new international chain store is to be introduced in Norway- Bogstadveien is the location. However, some small specialized shops (such as paint and ladies underwear) seem to be able to exist next to their well capitalized neighbours such as H&M, but unfortunately they are becoming fewer and fewer; the condition for their existence is probably that the shop owner also is the property owner as the rent is astronomical. The exception is a wide range of small fashion shops with limited but affluent customer groups.

## ***The street as an extended road notion***

Part A: Introduction (Chapters 1 & 2)

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Bogstadveien has neither an extraordinary urban setting nor any extraordinary architectural features that should suggest any aesthetical significance. In fact, the actual street floor, being a National Road, leaves a gloomy impression not being well maintained for years and with street furniture in a desperate need of replacement. It might seem surprising that the property owners do not insist in a feasible street floor standard by the Public Roads Administration but as long as the shops are willingly paying the horrendous rent, they do not seem to care. The success of Bogstadveien might be explained by the fact that the street itself and the adjacent area is the most popular habitat in the country, occupied by old widows and well-educated singles in their mid-30s with high income and few worries. Bogstadveien is their playground and they seem to enjoy occupying the expensive shops and many cafés. Consequently the northern part of Torggata and Bogstadveien has the same characteristics but at a very diverse level.



**Figure 2.18:**

*Four times a year, on a Saturday, the car traffic in Bogstadveien is closed converting the street into a crowded market place.*

## ***The street as an extended road notion***

Part A: Introduction (Chapters 1 & 2)

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At presents there is a project in progress to rehabilitate Bogstadveien. The motive for this is to renew the tram rails that are in a replaceable condition. However, another main objective is to reduce the impact of car traffic and to improve the architectural quality of the street floor and the complementing street furniture. One solution is to pedestrianize the street. However, the trade is worried that to segregate or exclude some traffic groups will affect the social activity negatively as the success of Bogstadveien is strongly linked to the present manifold of functions where car traffic is claimed to be a contributing element. Simultaneously, the quarterly car-free market event (Fig 2.18) has proved a tremendous success nourishing the argument to prohibit car traffic. The unisonous recommendation by the various participants and users to the Local Roads Office is to do as little as possible, leaving the latter in a state of confusion: what sort of physical implementations apply to fulfil the various and often incompatible requirements of the local community and above all: what type of architectural improvement will increase or at least maintain the present level of social activity? Therefore, one might ask:

- **Why is that human movement and behaviour are not a prime premise in planning to define whether architectural attractiveness has a positive or negative effect on generating social street activity?**

### 2.3.3 Architectural attractiveness as a transformer of social activity

Although there is insufficient evidence to suggest that architectural quality is a decisive factor to generate social activity, experience from numerous projects has strongly indicated that a change of architectural environment, for instance the rehabilitation of a street to a higher aesthetical standard, is transforming social activity rather than increasing it.

#### Karl Johans gate, Oslo



**Figure 2.19:**

*Karl Johans gate, Oslo, located in the core of the city center of Oslo, indicated in yellow; east part indicated with black dots. Egerstorget marked with black dot.*

Over the last years Karl Johans gate, the main street of Oslo has been thoroughly rehabilitated. The program has been carried out in two parts, the east part (from Oslo S to Egerstorget, Fig 2.21) being completed in approximately 1995 and the west part (from Egerstorget to the Royal Castle, Fig 2.20) being finished recently. To identify how architectural quality has transformed social activity, the east part is of particular interest.



## ***The street as an extended road notion***

Part A: Introduction (Chapters 1 & 2)

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**Figure 2.20:**  
*Karl Johans gate seen toward west from Egertorget.*



**Figure 2.21:**  
*Karl Johans gate seen toward east from Egertorget.*

The social transformation of this part of the street, previously a rather dull pedestrian route between the central station and the blooming west part (particularly west of Egertorget), has had an insignificant effect on the attitude of many street users. However, it seems to have made the authorities (and the police in particular) become more aware of unwanted activities such as drug dealing. As such activities are now expelled the street became more attractive and accessible for a wider group of people. In this case, the aesthetical upgrading of an area has indirectly (and in some cases directly) triggered off a positive “transformation spiral” influencing both the commercial and service offers.



## Youngs gate, Oslo

Such “spiral”-processes are more commonly associated with negative transformations due to functional alternation of for instance traffic regulation. A classic example is the enclosure of Youngs gata (Fig 2.22). Due to the segregation of the tram lane in Storgata, Youngs gata was suddenly one night closed to through traffic with the result that its social character simultaneously and overnight changed from being a lively shopping arena and a busy pedestrian route between Youngstorget and Storgata to become a secluded arena for drug distribution. It simply had lost the car as a policing element. The assertion of Jane Jacobs 30 odd years earlier, had been totally ignored by the planners, if it was even heard of?



**Figure 2.22:** Youngs gata in Oslo, a part of the UL-study area, once an open access between Youngstorget (the standpoint of the photographer) and Storgata (running perpendicularly in the center of the picture).

## *The street as an extended road notion*

Part A: Introduction (Chapters 1 & 2)

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### **“The Blue Stone”, Bergen**

The ultimate example of a physical implement of high architectural quality having a positive generating effect on social life is the sculpture “The Blue Stone” in Bergen. The sculpture was sponsored by a local, although internationally recognized, cheese manufacturer, and is located at the most holy spot in the city- the axial intersection between Torgallmenningen and Ole Bulls square.



**Figure 2.23:**

*“The Blue Stone” in Bergen prove that apparently insignificant physical implements might have strong generating effect on social activity.*

The gift resulted in a loud chorus of disapproval by the public after being implemented. After a deafening public debate and a demand for it to be removed, it has become the social symbol of Bergen, the natural meeting point of the city and willingly accepted by all, even the conservative old ladies of Bergen (Fig 2.23). “The blue Stone” is an illustrative case of how all physical implements have a social significance scarcely anticipated by planners. Therefore, one might ask:

- **Why is it that human movement and behaviour are not a prime premise to determine how transformation of the physical environment is effecting social activity?**

## 2.3.4 Hypothesis 2

In the context of establishing how social activity is generated and how social activity can be implemented in street planning as a prime planning premise, planning of streets and squares with emphasis on architectural quality ignores the question of how urban human movement and behaviour can be a prime premise in the planning:

- **to create an urban space of high architectural attractiveness?**
- **to define whether architectural quality and attractiveness have a positive or negative effect on generating social street activity?**
- **to determine how transformation of the physical environment is effecting social street activity?**

Firstly, to emphasize technical requirements, urban human movements and behaviour must be defined and appraised by the planner in such a way that the results are made applicable for the design work, meaning that the planner must acknowledge the basic social aspects of urban street activity.

Secondly, the notion “architectural quality” has to be defined in accordance with the local setting and the particular task. The architectural quality of buildings has a different reference than the architectural quality of urban spaces where buildings form the urban enclosure in which a certain social activity take place. So, what is the architectural planning challenge in creating usable urban spaces? It is an assertion of this thesis that many street projects with an intention of creating a level of architectural quality prove that too many street planners seem to have a unilateral comprehension of such quality ignoring the importance of how the urban space is composed and how the total architectural expression appeals to human nature.

To give applicable answers to the three above-mentioned issues, this assertion has to be confirmed or invalidated. Thus this thesis is presenting another simple, but not insignificant hypothesis for further review:

***Architecture attractiveness contributes insignificantly to social street activity.***

## 2.4 Hypotheses review

As previously described, it is the main aim of this thesis to identify and assess how social activity is generated and how social activity can be implemented in street planning as a prime planning premise. In doing so this thesis is presenting two hypotheses for further review:

- 1. A motorized traffic volume does not restrict social street activity.**
- 2. Architecture attractiveness contributes insignificantly to social street activity.**

This thesis contains the following material in order to confirm or refute the two presented hypotheses:

### **Part B: Theory and Methodology**

**Chapter 3: Historical Theory:** presents the historical conditions for urban planning with regard to human social relations.

**Chapter 4: Theoretical and Methodological Studies:** presents the theoretical and methodological approach to describe and assess social street activity.

### **Part C: Local Empiric Research and Registration**

**Chapter 5: Social Street Activity (UL-program):** presents the descriptive methodology used in the UL-program.

**Chapter 6: Social Street Activity Assessment (SSAA method):** presents the methodology used to assess the data derived by the UL-program.

**Chapter 7: Registration:** presents the locations and the factual registrations.

### **Part D: Analysis and Conclusion**

**Chapter 8: Analysis:** analyzing the data presented in Chapter 7.

**Chapter 9: Conclusion:** presents a conclusion of the analyses given in Chapter 8.

### **Part E: Synopsis and Recommendation:**

**Chapter 10: Synopsis:** presents a summary of the analytical conclusions and a brief assessment of the methodology,

**Chapter 11: Recommendation:** presents an assessment of the applicability of the UL methodology.

***The street as an extended road notion***

Part A: Introduction (Chapters 1 & 2)

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***The street as an extended road notion***

Part A: Introduction (Chapters 1 & 2)

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**Part B:**  
**THEORY**

**&**

**METHODOLOGY**

***The street as an extended road notion***

Part B: Theory & Methodology (Chapters 3 & 4)

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Part A, "Introduction", introduces two hypotheses for further assessment, namely:

- 1. A motorized traffic volume does not restrict social street activity.**
- 2. Architectural attractiveness contributes insignificantly to social street activity.**

As described earlier, it is the main aim of this thesis **to confirm or to refute the two presented hypotheses** and furthermore to identify and assess how social activity can be implemented in street planning as a prime planning premise. In doing so, this thesis will use a methodology derived from the R&D program "**Urban life - the street as a social arena**" (henceforth described as the "UL program" and thoroughly described in Chapter 5), and a supplementary methodology introduced by this thesis in order to make the UL program methodology applicable for the purpose to assess the hypotheses (thoroughly described in Chapter 6). However, in the history of planning and particularly during the last 50 years, social street life has been the subject of intensive studies and research by numerous professionals, basically sociologists. Chapter 4 in Part B presents a relevant collection of some of these studies. The aim is to describe their theory and methodology and furthermore assess their applicability in appraising the two presented hypotheses in the final synopsis (Chapter 10).

Part B is divided into two Chapters:

- a) Chapter 3: Historical Theory, presenting the historical conditions for urban planning with regard to human social relations.
- b) Chapter 4: Theoretical and Methodological Studies, presenting the general theoretic and methodological approach to assess social street activity.

Chapters 3 and 4 present a brief collection of studies. The subject "Social Street Life" comprises a wide collection of professional subjects including:

1. Urban planning and design, including for instance architecture and landscape architecture.
2. Transport planning, including for instance street planning and design.
3. Sociology, including for instance sociology (population, geopolitics and economics), demography and environmental behavior.



## **Chapter 3:**

# **HISTORICAL THEORY**

**- presenting the historical conditions for urban planning with regard to human social relations.**

## **3.1 Preface**

Social problems within the urban environment have always been a strong contributing factor to alteration in urban planning ideologies, and consequently in the development and transformation of cities and streets. This allegation is best illustrated by the statement of sir Patrick Geddes <sup>B1</sup>: "*slum, semi-slum and super-slum - to this has come the evolution of cities*", referring to the inhuman social environment that industrialism had brought to the working class urban society in Europe from the middle of the 19th century and onwards. Although social distress did not become especially evident until the introduction of Industrialism, social problems have always been part of the urban society. Cities have always incorporated a wide spectre of social classes, and the social distinction has been materialized physically, exemplified by the city walls of the medieval towns which represented a social border between the citizens within and the underprivileged without. Social distress was not a matter of public concern, however, until the crusaders brought the sociological approach to urbanism to Europe, by introducing the Islamic culture of charity to the European urban society. Such approach is closely linked to urban housing development.

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<sup>B1</sup> *Sir Patrick Geddes (1854-1932), Scottish biologist and botanist, correctly described as one of the founders of modern town and regional planning*

***The street as an extended road notion***

Part B: Theory & Methodology (Chapters 3 & 4)

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**Figure 3.1:**  
*"A City Thouroughfare" by Gustave Doré and Blanchard Jerrold, 1872, showing the distress of the industrial city.*

## 3.2 Social Urbanism prior to the Industrial Revolution.

The first sociological housing estate in Europe is assumed to be the Casa della Marinarezza in Venice, Italy, inspired by a Turkish model and built during the 15<sup>th</sup> century as linear building blocks to house the poor and the indigent. The Venetian Senate had, however, provided social housing for the benefit of seamen and foreigners as early as 1335 or perhaps earlier. While the linear structural pattern was used as model for the first social housing in Italy, Dutch social housing estates, such as the Begijnhof in Amsterdam from about 1430, represent early examples of complete urban structural units. The Venecian model was developed further in Ausburg, Germany, represented by the Fuggerei housing estate (1516-1523) <sup>B2</sup>, comprising long two-story building blocks built in parallel rows (Fig 3.2). This planning model, which was inspired by the Utopia by Thomas More, anticipates the future laminated building blocks of the Functionalism. The estate was extensively damaged during the 30-Year War between 1618 and 1648, and nearly obliterated in 1944 during World War II. Today 67 flats of the original 147 remain.



**Figure 3.2:**  
*Fuggerei in Augsburg (1516-23), an attempt to realize the utopia by Thomas More, erected in the early 15<sup>th</sup> century to house retired weavers and the deprived. It was severely damaged during World War II.*

***The street as an extended road notion***

Part B: Theory & Methodology (Chapters 3 & 4)

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The Fuggerei housing estate became a model for future social housing developments, exemplified by the Nyboder estate in Copenhagen erected in the period 1631-39 by the Danish King Christain IV, whose great interest in urban and fortification planning made a great impact on Scandinavian cities during his long reign from 1588 to 1648. Nyboder was planned to provide housing for the members of the navy, and its democratic approach to housing constitutes the basis of the present Danish social housing program.



***Figure 3.3:***

*A typical street of Fuggerei; the area is today a popular tourist attraction.*

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<sup>B2</sup> *The Fugger family was the richest in the world during the 16<sup>th</sup> century. The family set up the first low-cost housing estate (founded in 1521), called the Fuggerei.*

### 3.3 Industrialism

Industrialism entailed a social distress within the urban society to another extent than recognized earlier, characterized by environmental, residential, sanitary and medical conditions below human dignity, or as Lewis Mumford expresses: under the social conditions of the industrial working class urban society “*one must have all one’s senses blunted in order to be happy: and first of all, one must lose one’s taste*”<sup>B3</sup>. This new situation called for radical changes in the urban infrastructure to meet the increasing requirements of residential accommodation and to the acute needs in health services.

The answers to solve the increasing social problems of the western cities were to be found in the idealistic ideas of the urban reformers derived from the rationalism set by the late Middle Ages and the Renaissance, as a reaction against the splendour and profusion of the Baroque. France became the geographical setting for this new ideology, and its introduction coincided with the French Revolution of the transfer of political power from the king and nobility to the citizens. The ideology was philosophically rooted and was well received by philosophers like Voltaire and Rousseau (among others), who asserted a society and a conduct of life based on human reason rather than traditions and religious interventions.

The idealistic town of Chaux, designed by the architect Claude-Nicolas Ledoux<sup>B4</sup> (1775), reflects this new rationalistic approach to urbanism (Fig 3.4). The plan was realized, although in a reduced form, comprising an industrial community with a strong resemblance to the later idealistic city of Robert Owen. This new urban structure, which was a complete break with the traditional theories of urban design, meant a complete restructuring of the urban society. The aim of Owen was to create a new urban setting for the good, social life far from the degraded social environment of the industrial city. Sir Patrick Geddes gave the ideals of the Utopians a social

<sup>B3</sup> Mumford, Lewis: “*The City in History*”, Penguin Books 1966 (first published in USA 1961, p 537)

<sup>B4</sup> Claude-Nicolas Ledoux (1736-1806), one of the most successful and celebrated Parisian architects of the late 1700s.

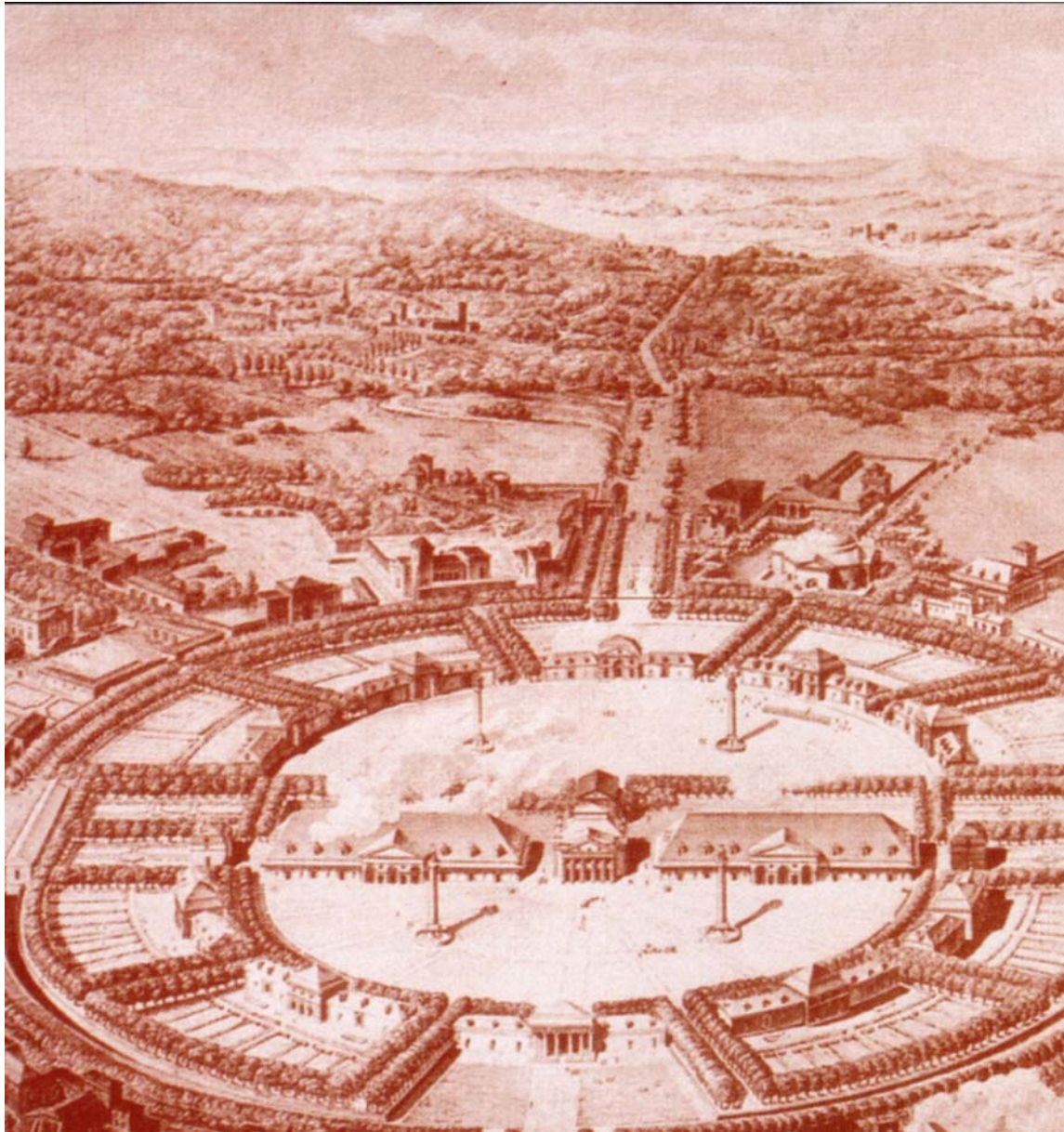


***The street as an extended road notion***

Part B: Theory & Methodology (Chapters 3 & 4)

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identity. His philosophy of human behavior was based on the idea that the urban society should be organized to meet the social needs of people. The slum of the industrial city should be replaced by areas for residential purposes only, planned with varying house types set in a green, urban landscape. Residential and industrial areas were distinctly separated.



**Figure 3.4:**

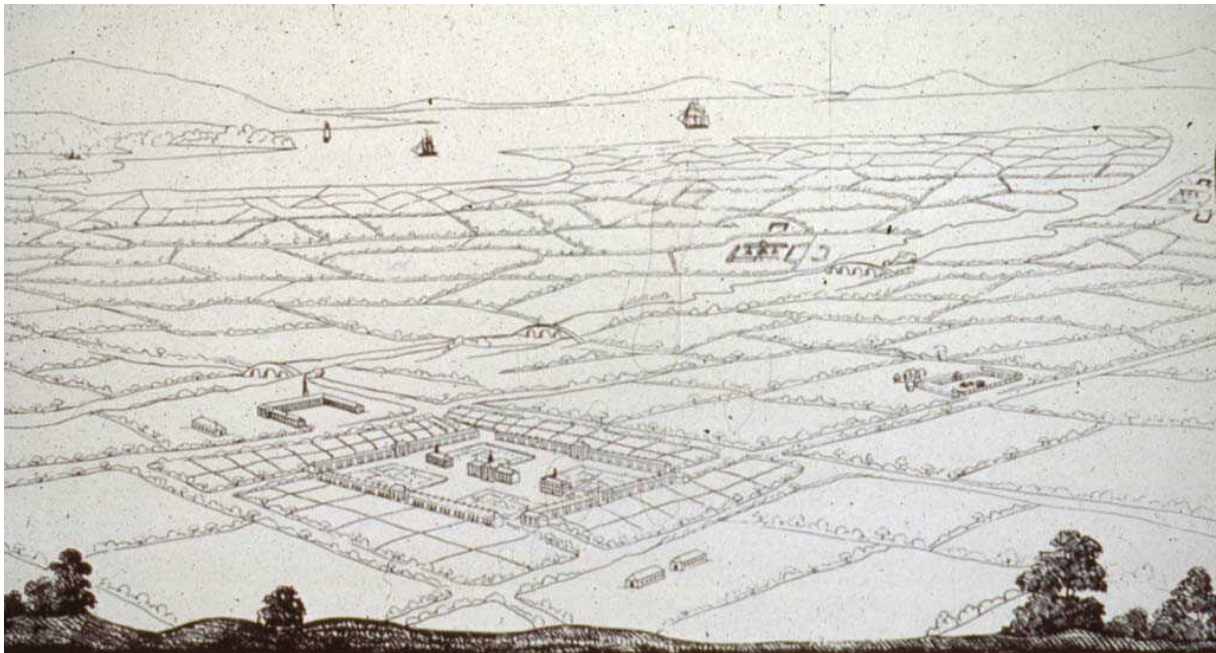
*Claude-Nicolas Ledoux: Les Salines de Chaux 1775. Residential units for workers form an oval with the factory and director's house in the centre. The plan has a striking resemblance to the ideal cities described in the comedy "The Birds" by Aristophanes and the treaty by Vitruvius. The idea represents an absolute principle based on total control.*

## ***The street as an extended road notion***

Part B: Theory & Methodology (Chapters 3 & 4)

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The advent of industrialism caused great changes in the cities. With increasing productivity and centralization of industry, the population increased radically. Many cities were unprepared for this rapid urbanization, and in many cases the infrastructure simply broke down. During the age of modernism, the study of urban design was marked by a rational approach to urban problems, originating in the theory of the ideal society as presented by Robert Owen<sup>B5</sup> and other Utopians in the beginning of the 19th century. Their solution was a city divided into zones, with buildings organized according to function in an open landscape. The functionalist planning theories, whose principles are embodied in current road design, developed from these ideas (Fig 3.5).



**Figure 3.5:**  
*The vision of Robert Owen from 1817 of “A village of harmony and cooperation”.*

The theories by Owen, to create a village of harmony and cooperation, were realized in the redevelopment of the Scottish cotton mill New Lanark (Fig 3.6), transforming a former dull mill into a working social community. New Lanark became the ideal for the forthcoming working societies in Britain such as Saltaire (Fig 3.7) near Shipley in Bradford.

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<sup>B5</sup> *Robert Owen (1771-1858), British philanthropist and idealist.*



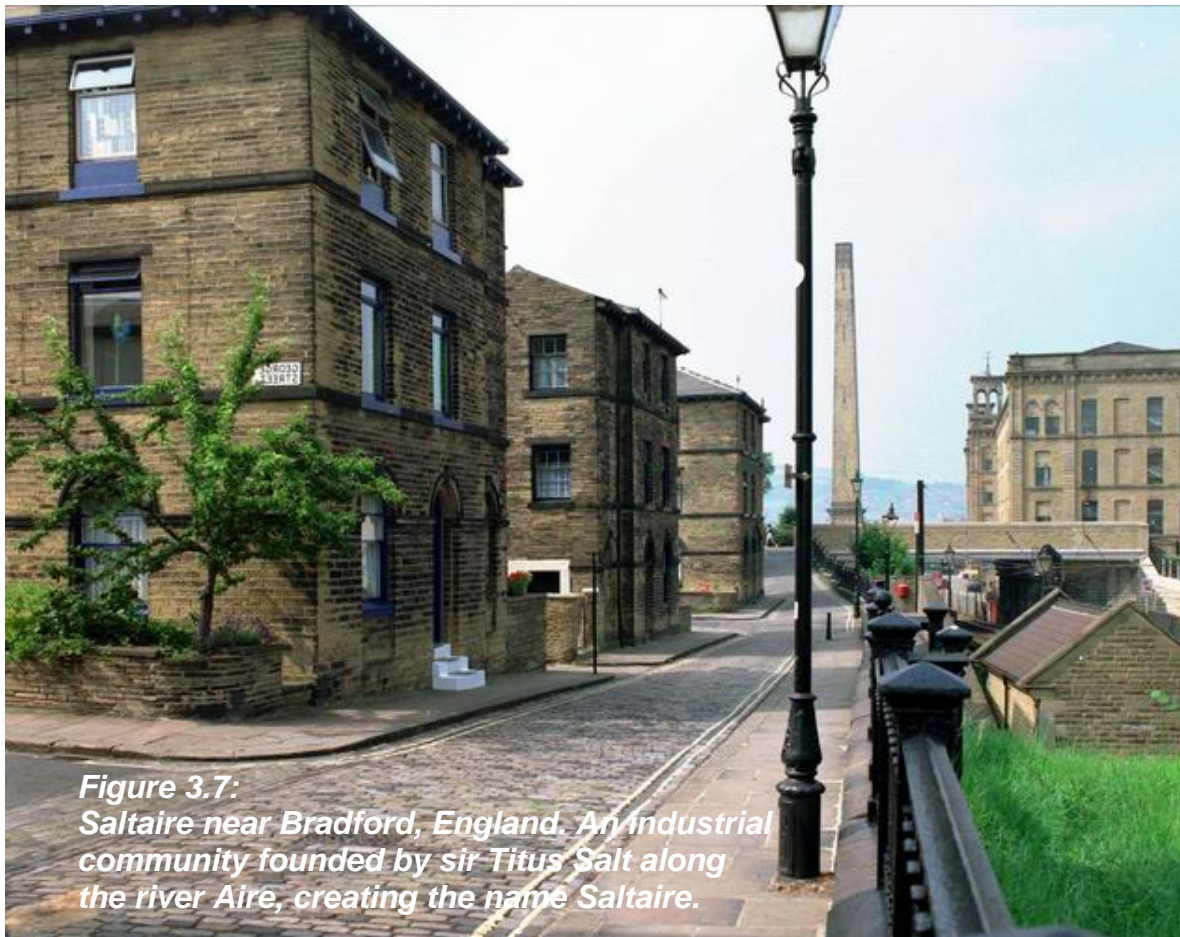
**The street as an extended road notion**

Part B: Theory & Methodology (Chapters 3 & 4)

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**Figure 3.6:**  
*A recent photo the cotton mill New Lanark, restored in 1974 to become listed in UNESCO's list of World Heritage Sites*

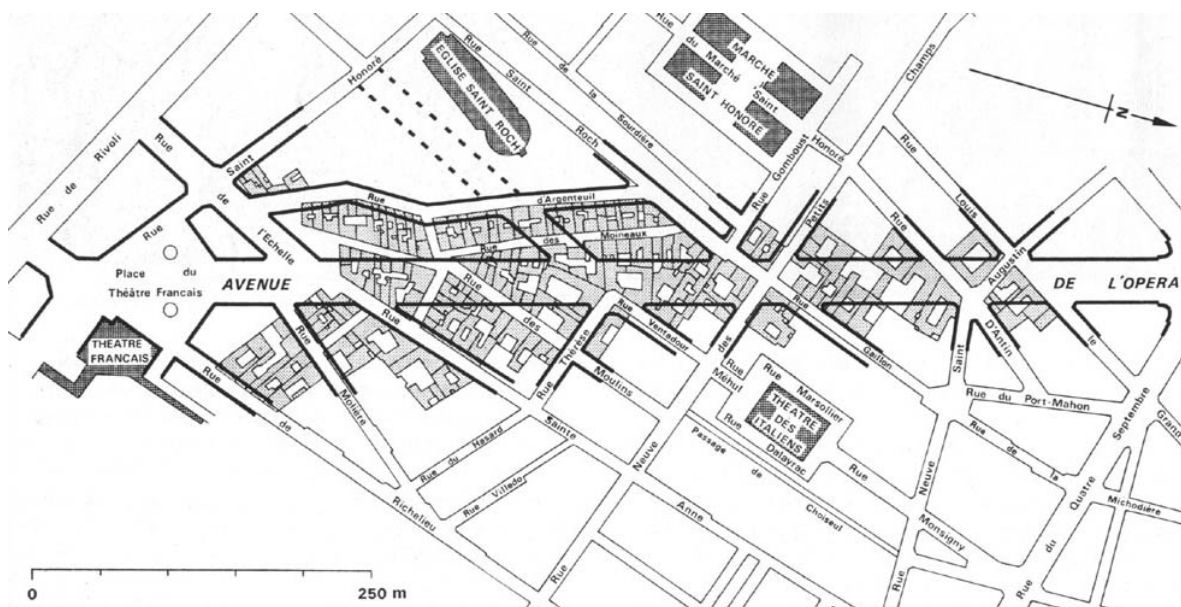


**Figure 3.7:**  
*Saltaire near Bradford, England. An industrial community founded by sir Titus Salt along the river Aire, creating the name Saltaire.*



### 3.4 Urban Reconstruction

Another means to solve the social distress of Industrialism within the large medieval urban societies was urban reconstruction. The most remarkable example to illustrate this conception is the reconstruction of Paris by Baron Georges-Eugene Haussmann (1804-1891) (Figs 3.8 & 3.9). The task of Haussmann was to solve the acute social and sanitary problems of the medieval city. There was also an increasing need for transportation, and from the 1848 revolution there was a need for better access for troops and police to control the city. The solution to these problems was the implementation of a new network of main streets. The new city plan followed the lines of selected monumental historical buildings, in line with the ambition of Napoleon III: to make Paris the most beautiful city in the world. The main structural element of the city plan was the street pattern, composed of general streets, avenues and boulevards. Road building was the only state-run activity that was sufficiently powerful to implement reforms of the extent of the plan of Haussmann. His road-building strategy for the implementation of his design is as remarkable as the plan itself.



**Figure 3.08:**  
*The new Paris. Illustration showing the implication of the urban reconstruction of medieval Paris.*

***The street as an extended road notion***

Part B: Theory & Methodology (Chapters 3 & 4)

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The planning strategy of Haussmann is reminiscent of the present situation in many cities of today, where road-building has the highest priority in public urban development. The road-building strategy is also a strategy for urban restructuring and transformation. The plan, which was implemented between 1853 and 1870, represented a departure from approximately 400 years of an urban tradition that was primarily based on formal issues. With the birth of industrialism, urban planning had been converted from being above all an artistic discipline to become a pragmatic tool to overcome the functional problems of cities. The study of urban planning adopted a civil engineering approach.



**Figure 3.9:**  
*Paris according to Haussmann.*

## 3.5 The Garden Village Movement and its Aftermath

In England the modern urban planning strategy was carried out at the turn of the 19<sup>th</sup> century as part of the Garden City Movement. The work was initiated by Ebenezer Howard, who developed a program for improved urban environment, partly inspired by the City Beautiful Movement in America. The program was realized in the years to come through the building of Garden Cities such as Letchworth and Welwyn, designed by Howard; and probably the most striking example, Hampstead Gardens in London (Fig 3.10) and New Earswick in York (Figs 3.11 & 3.12), both designed by Raymond Unwin.



**Figure 3.10:**  
*An ancient view of a typical Hampstead residential street comprising Aberdare Gardens South Hampstead in early 1900.*

***The street as an extended road notion***

Part B: Theory & Methodology (Chapters 3 & 4)

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***Figures 3.11 & 3.12:***

*New Earswick, York, England (Raymond Unwin/ Barry Parker, 1902), an early example of a garden village estate, designed to house the workers at the Rowntree chocolate factory. Photo to the left is from the 1920s showing a typical street scene with modest motorized traffic. Photo to the right is showing an aerial view from 1989.*



***Figure 3.13:***

*Ullevål Hageby, the most celebrated garden village project in Norway, designed by the architects Morgenstjerne og Eide in collaboration with Harald Hals.*

### ***The street as an extended road notion***

Part B: Theory & Methodology (Chapters 3 & 4)

The Garden City Movement had insignificant impact on the internal planning of existing cities at the time, but it had strong influence on future urban planning strategies, or as Jane Jacobs sums up the view of Sir Patrick Geddes who “*saw the Garden City idea not as a fortuitous way to absorb population growth otherwise destined for a great city but as the starting point of a much grander and more encompassing pattern*” <sup>B6</sup>. The reflections of Geddes and Jane Jacobs proved right. The Garden City planning-model not only constituted an important contribution to the realization of the future functionalistic urban planning ideal, but also introduced the present segregated transport system. The Radburn Plan (New Jersey) (Fig 3.14), by Clarence Stern from 1929, was based upon the Garden City concept, but the layout went further in separating the various means of traffic; or as Stern summarizes two of the main elements of the plan: “*specialized roads planned and built (each) for one use instead of for all uses, and complete separation of pedestrians and automobiles*” <sup>B7</sup>



**Figure 3.14:**  
*The Radburn Plan, New Jersey, USA. from 1929 had an enormous impact on the subsequent planning of transport routes in urban areas.*

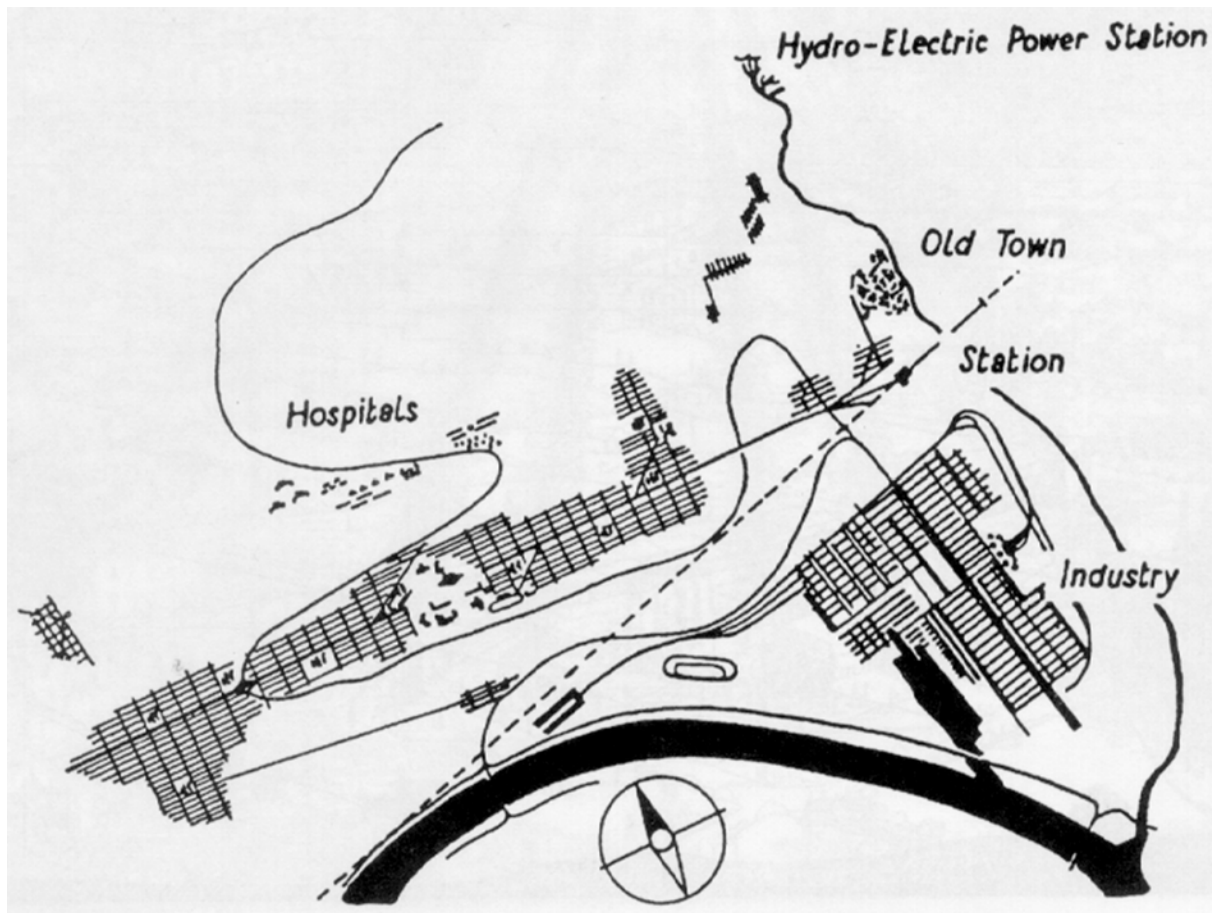
The Garden City concept triggered off the realization of the Modern Movement in urban planning history, producing a technical tool to overcome the functional requirements of the rapidly growing urban society. The city became a setting for the implementation of the new approach to urbanism, resulting in a disintegrated urban structure with a social distress of another dimension recognized earlier. In this new urban setting, the original Garden City survived as probably the most successful and popular residential environment ever built.

<sup>B6</sup> Jacobs, Jane: “*The Death and Life of Great American Cities*”, Penguin Books 1994 (first published in USA by Random House in 1961), p 29.

<sup>B7</sup> Broadbent, Geoffrey: “*Emerging Concepts in Urban Space Design*”, Van Nostrand Reinhold, London 1990, p 128.

### 3.6 The Rise and Fall of Functionalism

The plan of Tony Garnier (1867-1948) for the City Industrielle (Fig. 3.15) represented a turning point for modernistic city planning. Based on the Utopian zone divisions, this was the first planned functionalistic city. The zone divisions required more extensive transportation. Mass transportation became essential to make the new city function. The role of the streets as a generating element of urban form faded and was taken over primarily by independent buildings. The traditional city, a densely built-up area with an urban pattern of streets and squares, was replaced by a fragmented urban space with individual buildings and a network of roads connecting the various zones of the open city. The motorway and the tower block became the symbols and the generating elements of the city of the functionalist, illustrated by the city ideal of La Ville Radieuse (Fig 3.16) by Le Corbusier from the 1920s.



**Figure 3.15:**

*The concept of the Cité Industrielle by Tony Garnier (1901-1904)*



***The street as an extended road notion***

Part B: Theory & Methodology (Chapters 3 & 4)

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Urban traffic problems required drastic solutions. The plan by Le Corbusier<sup>B8</sup> for a "contemporary city for 3 million inhabitants" (1922), his book "The City of Tomorrow" from 1924 and the city plan "La Ville Radieuse" (Fig 3.16) gave pioneering solutions to the problem of urban growth. The motorway became the major structural element in the re-planning of many South American and North African cities around 1930. His sketched plans for Montevideo, Sao Paulo and Rio de Janeiro (1929) were based on the concept of a "viaduct city" with an expressway passing over the roofs of apartment buildings. The topography was intended to be integrated in a technological urban structure.



**Figure 3.16:**

*La Ville Radieuse (Le Corbusier, 1920s) comprising the centre of the Ville Radieuse with transport interchange.*

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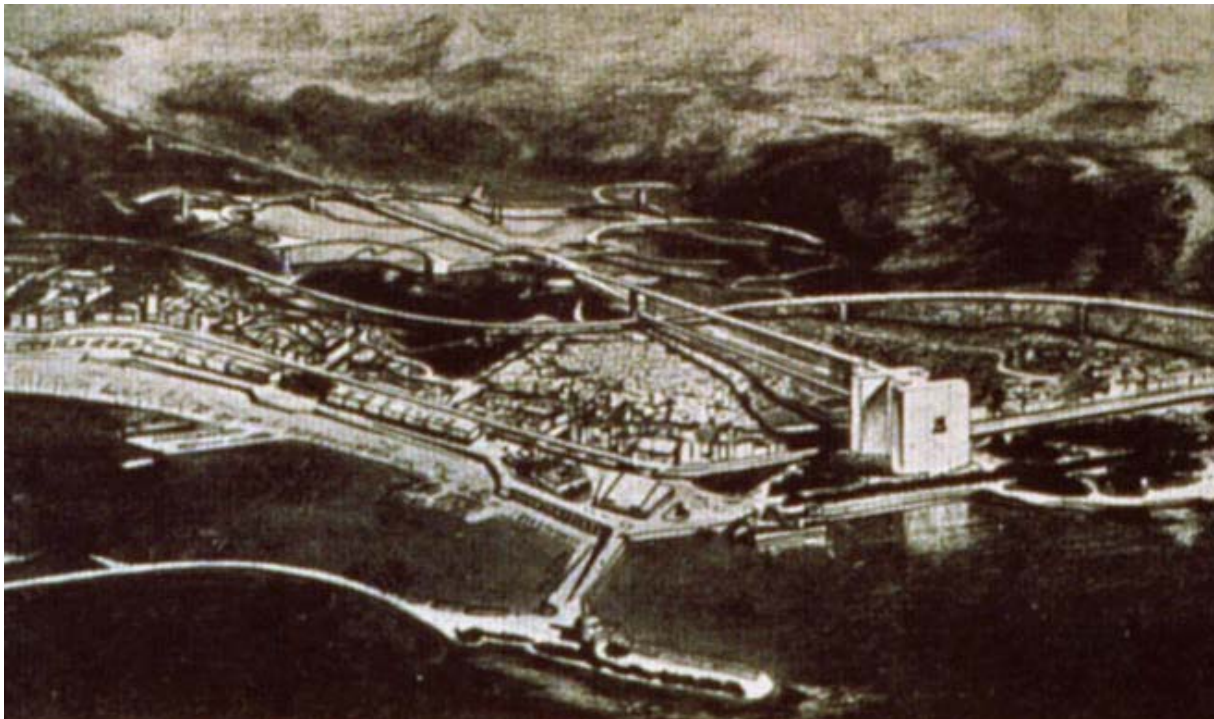
<sup>B8</sup> *Le Corbusier (1887-1965): Swiss architect with immense impact on the contemporary architecture and urban planning.*

***The street as an extended road notion***

Part B: Theory & Methodology (Chapters 3 & 4)

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The most advanced plans following this system were the plans for Algiers from 1930 and 1933 (Fig 3.17), incorporating most of the ideals of the Utopians and of the progressive urbanists. The ties with traditional urban design were completely absent. The motorway was emphasized as the structural element in the structuring of the new urban development. This meant a clear separation between the traffic arteries and the buildings. The city planning theories of Le Corbusier were never implemented in full scale. However, his ideals of urban design heavily influenced the planning of many European cities implemented before 1980. The English "New Towns" are a case in point.



**Figure 3.17:**

*One of le Corbusier's proposals for a city plan of Algiers from 1931-1934, with elevated motorways as the structural and architectural element.*



### ***The street as an extended road notion***

Part B: Theory & Methodology (Chapters 3 & 4)

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Le Corbusier renounced the street as an inadequate transportation artery by saying: "*Our streets no longer work. Streets are an obsolete notion. There ought not to be such a thing as a street; we have to create something that will replace them*"<sup>B9</sup> According to the "limited" conception of the notion "street" by Le Corbusier, he was undoubtedly right. His vision of a new urban order nevertheless resulted in a downgrading of the urban vehicular traffic artery. He regarded it purely as a technological device with the sole purpose of carrying people from the various residential and commercial arenas that constituted the functionalistic town. As the street was reduced to an historical reminiscence, the architectural and the social significance of the urban vehicular artery became a non-subject.

The Modern Movement, which culminated in the rise of Functionalism, provided the theoretical answer to the social suffering Industrialism had brought upon many urban societies. When the practical accomplishment of Modernism failed to provide the social reforms intended, and instead created additional social distress to many groups of urban inhabitants, a new counterattack began against the social inadequacy of the prevailing planning ideology of the 1950s. The aim of the oppositionists was, according to Cliff Moughtin: "*the rehabilitation of the street as a legitimate element of civic design*"<sup>B10</sup>. This referred to the British architects Peter and Alison Smithson. The decisive attack on Functionalism as a urban planning ideal took place at the last meeting of the Congr e d'Architecture Moderne (CIAM, Fig 3.18) in 1956 where Alison and Peter Smithson (among others) presented their doubt towards the sterility of the city envisioned by the modernists, stating that "*Man may readily identify himself with his own hearth, but not easily with the town within which it is placed. 'Belonging' is a basic emotional need- its associations are of the simplest order. From 'belonging'-identity- comes the enriching sense of neighbourliness. The short narrow street of the slum succeeds where spacious redevelopment frequently fails*"<sup>B11</sup>.

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<sup>B9</sup> Source: *Telegraph.co.uk: Article: "Why architects get it wrong", 2006/ extracted from "The Architecture of Happiness" by Alain de Botton, published by Hamish Hamilton, London 2006.*

<sup>B10</sup> *Cliff Moughtin: "Urban Design Street and Square", Butterworth Architecture, 1992*

<sup>B11</sup> [www.open2.net/modernity/4\\_2.htm](http://www.open2.net/modernity/4_2.htm)

***The street as an extended road notion***

Part B: Theory & Methodology (Chapters 3 & 4)

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**Figure 3.18:**

*The foundation of CIAM in 1928 marked the determination of Modernist architects to promote and finesse their theories. For nearly thirty years the great questions of urban living, space, and belonging were discussed by the CIAM members.*

Nevertheless, many housing estates, built according to the principles of Functionalism, today represent popular housing areas. The first satellite town in Norway, Lambertseter, Oslo (Fig 3.19 & 3.20), is illustrative being the prior Norwegian symbol of the realization of the social democracy and having survived the initial social distress by uprooting its 15 000 inhabitants (18 000 in 1968) from a familiar social environment into an alien habitat of the future. The significance of this survival process has been well documented in several highly interesting motion pictures of the late 1950s/ early 1960s with Lambertseter as a setting (Fig 3.21 & 3.22). Today the area represents a popular housing estate, recently undergone a rehabilitation program and having experienced a generation change. The current residents are relatively young people or old widows who moved in during the early years of the 1950s.

***The street as an extended road notion***

Part B: Theory & Methodology (Chapters 3 & 4)

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**Figure 3.19:**  
*An aerial view of Lambertseter from the early 1960s.*

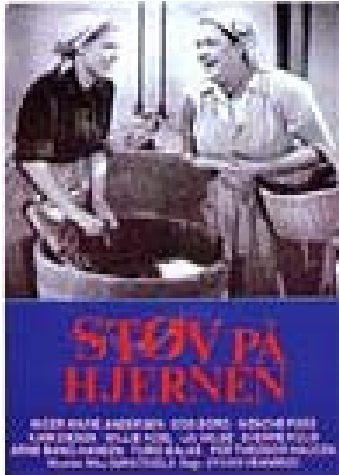


**Figure 3.20:**  
*The entrance of a new era: Lambertseter, the first Norwegian functionalistic satellite town being a successful realisation of the social democratic ideal of the early 1950s, although not without a painful social adaptation process.*

**The street as an extended road notion**

Part B: Theory & Methodology (Chapters 3 & 4)

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**Figures 3.21 & 3.22:**

The two motion pictures “Støv på hjernen” (“Dust on the brain”) 1959 and “Sønner av Norge” (Sons of Norway) 1961, both directed by Øyvind Vennerød, describes the entrance into the modern social democracy and the challenge of social readjustment to fit into the housing ideal of Functionalism.

## **Chapter 4:** **THEORY AND METHODOLOGY** **STUDIES**

**- presenting the theoretic and methodological approach to assess social street activity.**

### **4.1 Preface**



**Figure 4.1:**

*The demolition of Pruitt-Igo marked the end of Functionalism as an ideology.*

The demolition of this celebrated and award-winning estate Pruitt-Igo in St Louis, USA on the 16<sup>th</sup> of March 1972 marked the end of Functionalism as a planning ideology, according the architectural historian Charles Jencks. Subsequently, Functionalism, impressing the prevailing architectural fashion, had become purely a formal architectural language without any significant ideological substance. Pruitt-Igo was a 3,000-unit public housing project designed in 1951 by the architect Minoru Yamasaki

***The street as an extended road notion***

Part B: Theory & Methodology (Chapters 3 & 4)

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(later to design the World Trade Center) and constructed in St. Louis in the 1960s. The project consisted of 11 story-high buildings with grounds on first floor for community activities. It was commissioned as part of a federal housing program as an attempt to bring people back to the city. Because the grounds were common and disassociated from the residential units, residents could not identify with them and within a few years the estate quickly fell into disrepair and disuse, heavily vandalized by its own residents. The complex never achieved more than 60% occupancy and was destroyed only 10 years after construction.

The demolition of Puritt-Igo initiated an attack against modern urban planning and the suburbia that is still prevailing with the activity by the New Urbanism movement. The objective of the attack was, and still is, to re-establish the dense historical city centre, to reclaim the traditional street and to remind some modernistic planners that the city and the street actually have represented a social arena for millennia and still possess this quality provided that they are designed accordingly.

As the attack against Functionalism dazed the international architectural scene during the late 1950s, many architects and sociologists took the effort to rehabilitate "*the street as a legitimate element of civic design*"<sup>B12</sup>. Among the contributors Jane Jacobs, Gordon Cullen, Kevin Lynch, Donald Appleyard, Jan Gehl and William Whyte have become main frontrunners in the pioneering work to rehabilitate the city - and the street - as a true social arena: Jacobs with a written justification of the social inadequacy of the functionalistic urban planning, Cullen with a statement about the formal characteristics of the traditional street and Lynch, Gehl and Whyte with their illustrating account for the relationship between human activities and the built urban environment and the ability for humans to navigate within such environments.

There are numerous pieces of research that have been done over the last 40 years to appraise the street as a social arena. The work of Donald Appleyard, Jan Gehl and William Whyte, among others, represents vital contributors<sup>B13</sup>. Such work was

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<sup>B12</sup> Quotation by Peter and Alison Smithson and Team 10

<sup>B13</sup> Donald Appleyard: "*Livable Streets*", 1981, Jan Gehl: "*Livet mellom husene*", 1971

***The street as an extended road notion***

Part B: Theory & Methodology (Chapters 3 & 4)

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originally started out by the French utopists in the 18<sup>th</sup> century, through the work of Patrick Geddes, and in modern times the outcry of Jane Jacobs, who in 1961 so courageously opposed the prevailing planning tradition which through Functionalism so unsuccessfully realized the greatest social planning experiment in the history of mankind. Since Jane Jacobs, the sociologists have continued their struggle to make modern planners, and architects in particular, comprehend that there are additional factors than the quality of the physical built environment that affect the quality of urban life. In such research programs planners, architects and transport engineers have hardly been on the scene, although such research provides essential knowledge for basic urban and transport planning.

Although the interplay between social life and physical settings has not been a dominating issue in the practical planning of cities and towns for the last half century, several empirical studies have been carried out and various theoretical studies have been developed internationally over the theme. In larger European cities, and in some parts of USA, the issue represents a profession of increasing interest, especially the relationship between the characteristics of physical form and human behavior; a field of interest where architecture and social science as professions find a common ground. Unfortunately, this does not necessarily mean that architects and sociologists actually cooperate in urban planning projects. In Denmark and Sweden several research projects and doctoral thesis are being accomplished. At a purely theoretical level, very little has been done in Norway. Still, some systematic empiric studies have previously been carried out, such as the "Bygata" report from 1978 (presented in Section 4.7), a report from Oslo (In'by / Gehl, 1990, in Lillehammer (as part of the 1994 Olympics) and in five villages as part of the "Street Enhancement Program" project carried out by the Norwegian Public Road Administration during 1990 and 1995 (presented in Section 4.10).



## 4.2 The relationship between form and culture



**Figure 4.2:**  
Gordon Cullen.

“One building standing alone in the countryside is experienced as a work of architecture, but bring half a dozen buildings together and an art other than architecture is made possible.”<sup>B14</sup>  
- Gordon Cullen<sup>B15</sup>

### 4.2.1 Theory

According to Geoffrey Broadbent,<sup>B16</sup> Gordon Cullen started to develop his ideas for the “Townscape Movement” in 1945 as a editor at the architectural journal “The Architectural Review”, first through a series of articles and later in his books “Townscape” (1961) and “The Concise Townscape” (1971, Fig 4.3). The new approach to urbanism by the “Townscape movement” was in fact a continuation of the theories of Camillo Sitte<sup>B17</sup> and Raymond Unwin<sup>B18</sup>, although with a wider social engagement. The thrust of the movement was to establish the relationship between form and culture within the urban structure by redefining urban culture and the urban townscape. The enclosed street was redefined not only to make it more attractive, but also to achieve an upgraded status for its social activities and possibilities. The hope was to re-establish the traditional social systems within the urban fabric.

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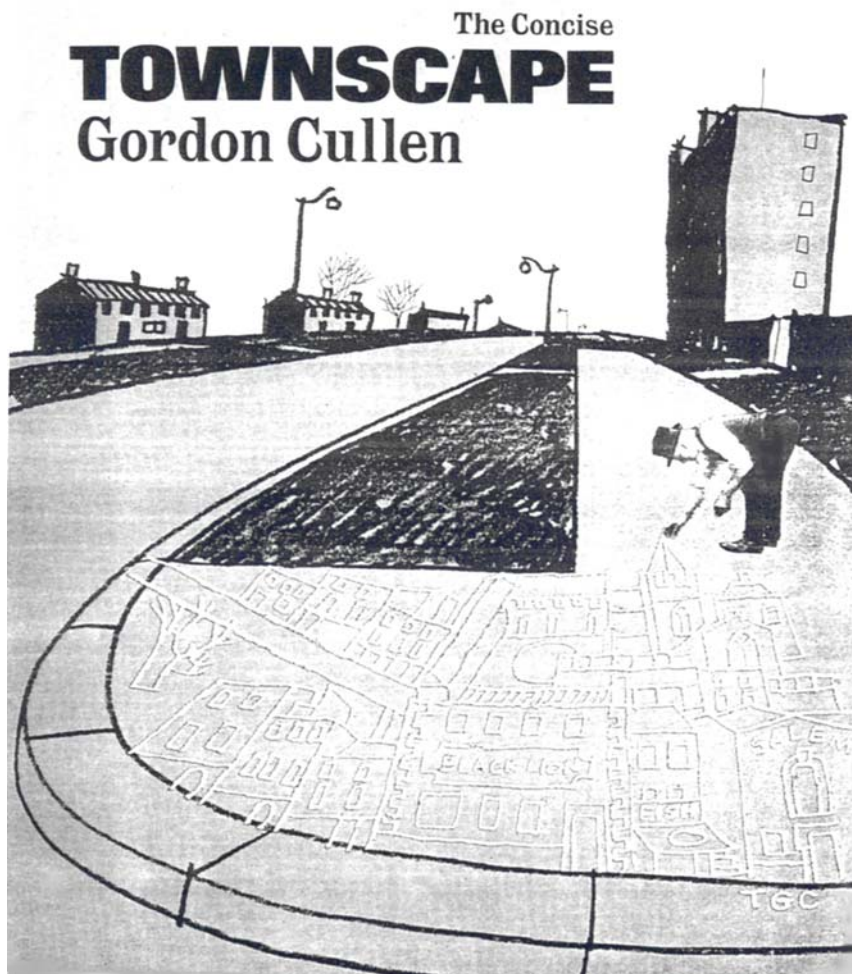
<sup>B14</sup> Cullen, Gordon: “*The Concise Townscape*”, London: Architectural Press, 1961, p 7

<sup>B15</sup> Gordon Cullen (1914-1994), English architect and founder of the Townscape movement.

<sup>B16</sup> Broadbent, Geoffrey: “*Emerging Concepts in Urban Space Design*”, London: Van Nostrand Reinhold, 1990, pp 217

<sup>B17</sup> Camillo Sitte (1843-1903) Austrian architect, city planner, theorist and painter.

<sup>B18</sup> sir Raymond Unwin (1863-1941), British architect and city planner.



**Figure 4.3:**  
*"Townscape" (Gordon Cullen 1961), illustrating the old man situated in the derelict suburb recalling the social possibilities of his past.*

## 4.2.2 Methodology

Cullen is best known for his concept of 'serial vision', treating the urban landscape as a series of related spaces. However, according to Tony Lloyd-Jones and Marion Roberts<sup>B19</sup>, the power of the book lies *"in the way in which Cullen is able to capture the poetic essence of the experience of urban form and space and give a vocabulary to the many practising designers who have used his concepts to inform their approach*

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<sup>B19</sup> Tony Lloyd-Jones and Marion Roberts are tutors at the School of Architecture and Built Environment at the University of Westminster, England

***The street as an extended road notion***

Part B: Theory & Methodology (Chapters 3 & 4)

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to urban design”<sup>B20</sup>. The “urban drama” that according to Cullen is a strong contributing condition for the city to become a true setting for human interaction and experience cannot be entirely achieved “by scientific research and or by the technical half of the brain”. Urban planners, architects, demographers, sociologists, engineers and traffic experts and so on have to find a common ground in the planning of urban structures. Furthermore, the failure to implement the ideas of Cullen and the “Townscape Movement” in current urban and street design might be explained, as Tony Lloyd-Jones and Marion Roberts point out, by the fact “that the aesthetic approach focuses too evidently on the Picturesque and has helped reinforce the sentimental, backward- looking tendencies of British urban design. This may have focused attention away from a forward-looking and socially relevant approach”<sup>B21</sup>.



**Figure 4.4:**  
Another example of the excellent illustrations of Godon Cullen.

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<sup>B20</sup> source: Lloyd-Jones & Roberts: “An urban Design Canon”, *Urban Design Quarterly*, Issue 59, July 1996

<sup>B21</sup> source: [www.arch.mcgill.ca/prof/sijpk/arch374/winter2001/b\\_tljmr.html](http://www.arch.mcgill.ca/prof/sijpk/arch374/winter2001/b_tljmr.html)

## ***The street as an extended road notion***

Part B: Theory & Methodology (Chapters 3 & 4)

As Cullen described the theories of the movement in his mentioned books, the Smithsons summarized their approach towards street-space some years later by referring to streets whose "*inherent feeling of safety and social bond had much to do with the obviousness and simple order of the form of the street*". They concluded that "*the street is not only a means of access but also an arena for social expression*"<sup>B22</sup>.

### **4.2.3 Summary**

Although the ideas of the "Townscape Movement" had a great influence on the coming generation of urban designers, it has not marked the planning and design of streets by current transport planners. As Lloyd-Jones and Roberts points out in their article "An Urban Design Canon": "*Perhaps the strongest criticism that can be Revealed against Cullen, or rather against the way that his ideas have been used, is that the aesthetic approach focuses too evidently on the Picturesque and has helped reinforce the sentimental, backward- looking tendencies of British urban design. This may have focused attention away from a forward-looking and socially relevant approach*"<sup>B23</sup>.



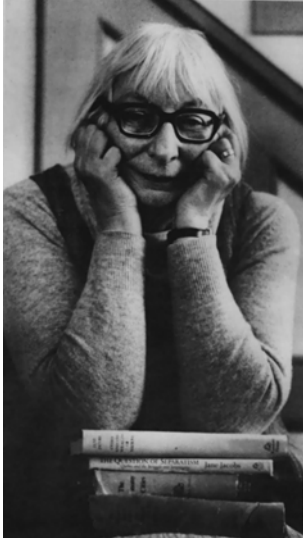
**Figure 4.5:**

*A proposal by Cullen to improve the aesthetical impact of a street by replacing the traditional street light fittings.*

<sup>B22</sup> Moughthin, Cliff: "Urban Design Street and Square", Butterworth Architecture, Oxford 1992, p 130.

<sup>B23</sup> source: Lloyd-Jones & Roberts: "An urban Design Canon", Urban Design Quarterly, Issue 59, July 1996 ([www.arh.mcgill.ca/prof/sijpkes/arch374/winter2001/b\\_tljmr.html](http://www.arh.mcgill.ca/prof/sijpkes/arch374/winter2001/b_tljmr.html))

## 4.3 The street as vital urban organ



**Figure 4.6:**  
Jane Jacobs.

"In order to create "healthy" communities -- communities that are economically, socially, politically, and environmentally vibrant -- as planners we must design and build with the people and all of their various activities, values, and influences in mind." <sup>B24</sup>

– Jane Jacobs <sup>B25</sup>

### 4.3.1 Theory

The observation by the "Townscape Movement" was further accounted for by the American sociologist Jane Jacobs. She claimed that: "*Streets and their sidewalks, the main public place of a city, are its most vital organs. Think of a city and what comes to mind? Its streets. If the city's streets look interesting, the city looks interesting*" (Jacobs, 1961) <sup>B26</sup>. In a more detailed discussion of the street as a social arena, she states three conditions that are essential in order to give the streets that liveliness necessary to become "self-policing" and safe:

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<sup>B24</sup> [bss.sfsu.edu/pamuk/urban/](http://bss.sfsu.edu/pamuk/urban/) (*The Jane Jacobs Home Page*)

<sup>B25</sup> Jane Jacobs, (1916-2006), sociologist and associated to the University of Virginia, USA

<sup>B26</sup> Jane Jacobs: "*The Death and Life of Great American Cities*", New York: Vintage Books, 1961

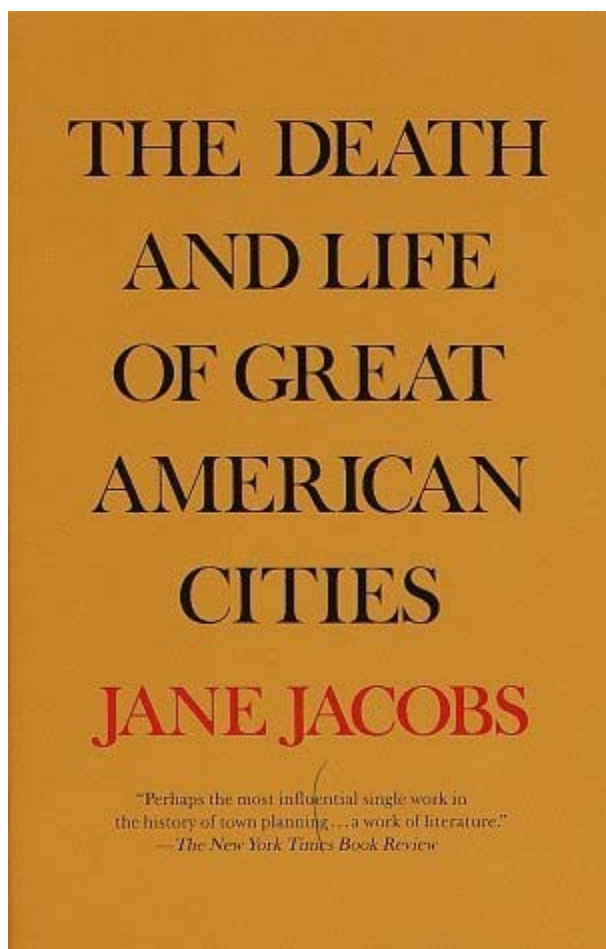
***The street as an extended road notion***

Part B: Theory & Methodology (Chapters 3 & 4)

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- First, if a street is to be safe, there must be a clear demarcation between public space and private space.
- Second, there must be eyes upon the street, eyes belonging to those we might call the natural proprietors of the street.
- Third, the sidewalks must have users on it fairly continuously, both to add to the number of effective eyes on the street and to induce the people in buildings along the street to watch the sidewalks in sufficient numbers.

From these conditions she derives the conviction that: "*the street will gain and maintain a reputation for being interesting, lively and secure. People will enjoy going there to see and to be seen. The street will take on a life of its own. Any street which lacks these basic conditions may be perceived as insecure, hostile and indeed actively dangerous*"<sup>B27</sup>



**Figure 4.7:**  
"The Death and Life of Great American Cities" from 1961, attacking the urban planning of the 1950s, is still of current interest.

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<sup>B27</sup> Broadbent, Geoffrey: "Emerging Concepts in Urban Space Design", Van Nostrand Reinhold, London 1990, p 139.

### **4.3.2 Summary**

The work of Jane Jacobs has inspired the prevailing urban regeneration and urban design programs that have been initiated during the last two decades especially in Europe and the US. With the explosive increase in urban crime, her ideas about urban surveillance and human interaction have found a wider acceptance among urban planners. However, it is difficult to implement her observations into physical planning as they are subjective and without scientific substance. Thus her works remain primarily consultative rather than providing a methodical planning tool.



## 4.4 How humans locate themselves in a city

“The urban landscape, among its many roles, is something to be seen, to be remembered, and to delight in . . .” <sup>B28</sup>

- Kevin Lynch <sup>B29</sup>

### 4.4.1 Theory

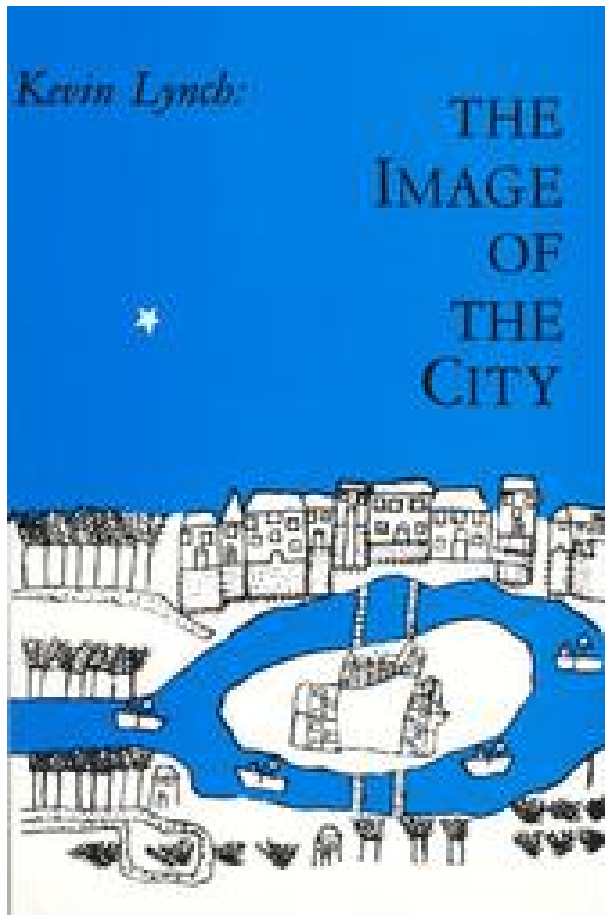
The work of Kevin Lynch aims to supply a planning tool enabling the planner to create “good city form” and to comprehend and visualize the human image of the built environment that constitutes the city. Lynch emphasizes this by saying: “*Every citizen has had long associations with some part of the city, and his image is soaked in memories and meanings. – Moving elements in the city, and in particular the people and their activities, are as important as the stationary physical parts*” <sup>B30</sup>.

To attain such comprehension Lynch presents a methodical approach to establish how people locate themselves within the city and how they find their way around. In so doing he introduced mental maps of the city visualizing its physical characteristics and its layout according to the individual. Such mental representation of the city contains many unique elements according to Lynch, which he defines as a network of paths, edges, districts, nodes and landmarks (Fig 4.8). The method was tested in a study consisting of questionnaire surveys, and interviews. The survey included thirty people in a central area of Boston, and fifteen each in the densely inhabited cities of Jersey City and Los Angeles. The study provided Lynch with valid information about how the participants interpreted the physical environment of the specific urban settings. The areas that people found vivid Lynch characterized with high “imageability”. “Imageability”, a term introduced by Lynch, described the quality of a physical object that gives an observer a strong, vivid image. Lynch concluded that for a city to be highly “imageable”, it had to be well formed and contain very distinct parts, and above all be instantly recognizable to the common inhabitant.

<sup>B28</sup> Lynch, Kevin: “*The image of the City*”, The M.I.T. Press, USA 1960, p 1

<sup>B29</sup> Kevin Lynch, (1918-1984), professor at Massachusetts Institute of Technology from 1963

<sup>B30</sup> Geoffrey Broadbent: “*Emerging Concepts in Urban Space Design*”, van Nostrand Reinhold 1990



**Figure 4.8:**  
*“The Image of the City” by Kevin Lynch has inspired a whole generation of urban planners.*

## **4.4.2 Methodology**

The study was presented in 1960 in the book “Image of the City” (Fig 4.8), a book that has had great influence on urban planners ever since. The methodical approach by Lynch is now used as a part of the planning process by many urban designers. The objective of creating more “imageable” cities according to Lynch has provided their residents with clearer and more navigable urban spaces, whether a new city is developed or existing ones are transformed. However, for urban designers the innovative use of mental mapping by Lynch to link various elements of urban structures with human perceptual experiences has proved to be the strongest legacy of his work.

### 4.4.3 Summary

- **Landmarks:** prominent points of interest



- **Pathways:** paths, streets, etc.



- **Districts:** downtown, dorms, etc.



- **Nodes:** meeting places, centers where pathways cross



- **Edges:** breaks on the map between districts



The methodology of Lynch is basically designed to determine how humans are interpreting the physical environment of a specific urban setting. By using mental mapping the various urban elements, are linked to a specific urban structure according to human perceptual experiences. This is actually one (of many) site appraisal to determine the characteristic of the built environment – the city. Such methodology also provides vital information about how people interpret their surroundings and what type of architectural elements they regard as interesting (Jacobs) or architectural attractive.

**Figure 4.9:**  
*Lynch mental map elements*

## 4.5 Livable streets

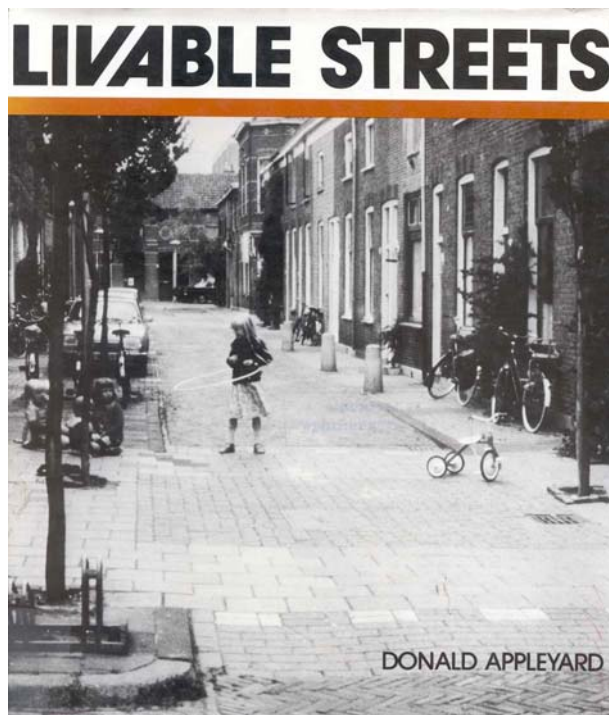
“People have always lived on streets. They have been the places where children first learned about the world, where neighbors met, the social centers of town and cities”.<sup>B31</sup>

– Donald Appleyard<sup>B32</sup>

### 4.5.1 Theory

As Lynch introduced mental mapping to determine how humans interpret the physical environment of urban settings, Appleyard developed the technique further and introduced mental maps for the purpose to study street liveability or more precisely how car traffic affects the extent and quality of social interactions in residential streets. This is in fact, a methodology to determine the environmental capacity of streets. Donald Appleyard’s *Livable Streets* documents his definitive research into the impact of the urban automobile on casual social contact within neighbourhoods. Appleyard clearly shows that the level of traffic inversely correlates with the level of social contact. As traffic on a street increases, people retreat from the street and attempt to

live their lives. Traffic noise makes conversation at normal levels difficult or impossible and steals the usual opportunities for casual interaction on the street. Residents rarely encounter their neighbours and often do not even know who their neighbours are. This leads to a gradual breakdown in the sense of community in the affected block.



**Figure 4.10:**  
“Livable Streets” by  
Donald Appleyard, 1981.

<sup>B31</sup> source: [www.pps.org](http://www.pps.org). under the chapter “Quotable”.

<sup>B32</sup> Donald Appleyard (1928-1982), professor of Urban Planning at Berkeley University

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## 4.5.2 Methodology

In his 1969 Livable Streets study, published in 1981 in the book “Livable Streets” (Fig 4.10), Appleyard used a form of image mapping, known as annotative mapping <sup>B33</sup>. Annotative mapping is described as “*the use of a base map to spatially relate the participant's responses. By aiding in people's spatial associations, it is a very useful tool for comparing the responses between individuals and groups*” <sup>B34</sup>.

Appleyard used this form of image mapping in a study of street livability to detect and compare the environmental perceptions of residents from three streets in San Francisco, termed by Appleyard as Light Street, Medium Street and Heavy Street. The streets were similar in many respects, both architecturally and functionally, both the traffic volume differed. By implementing the use of annotative mapping and interviews, Appleyard and his colleagues were able to present a perceptual assessment of both type and purpose of the orientation of the residents. This provided Appleyard with a “companion image” of the streetscape through a set of pictures indicating the movements of the residents at street level and their attitude towards street use (Fig 4.11). The specific questions asked by the researchers sought answers to the following questions:

- What is the extent of the resident's home territory?
- What is the location of the resident's friends and acquaintances?

The type of mapping used proved also effective in getting people to freely express their perceptions, views and feelings about their street and their neighbourhood. Supplementary questions were asked in an additional survey to determine how traffic affected such things as tenure rates, preferences and comfort levels.

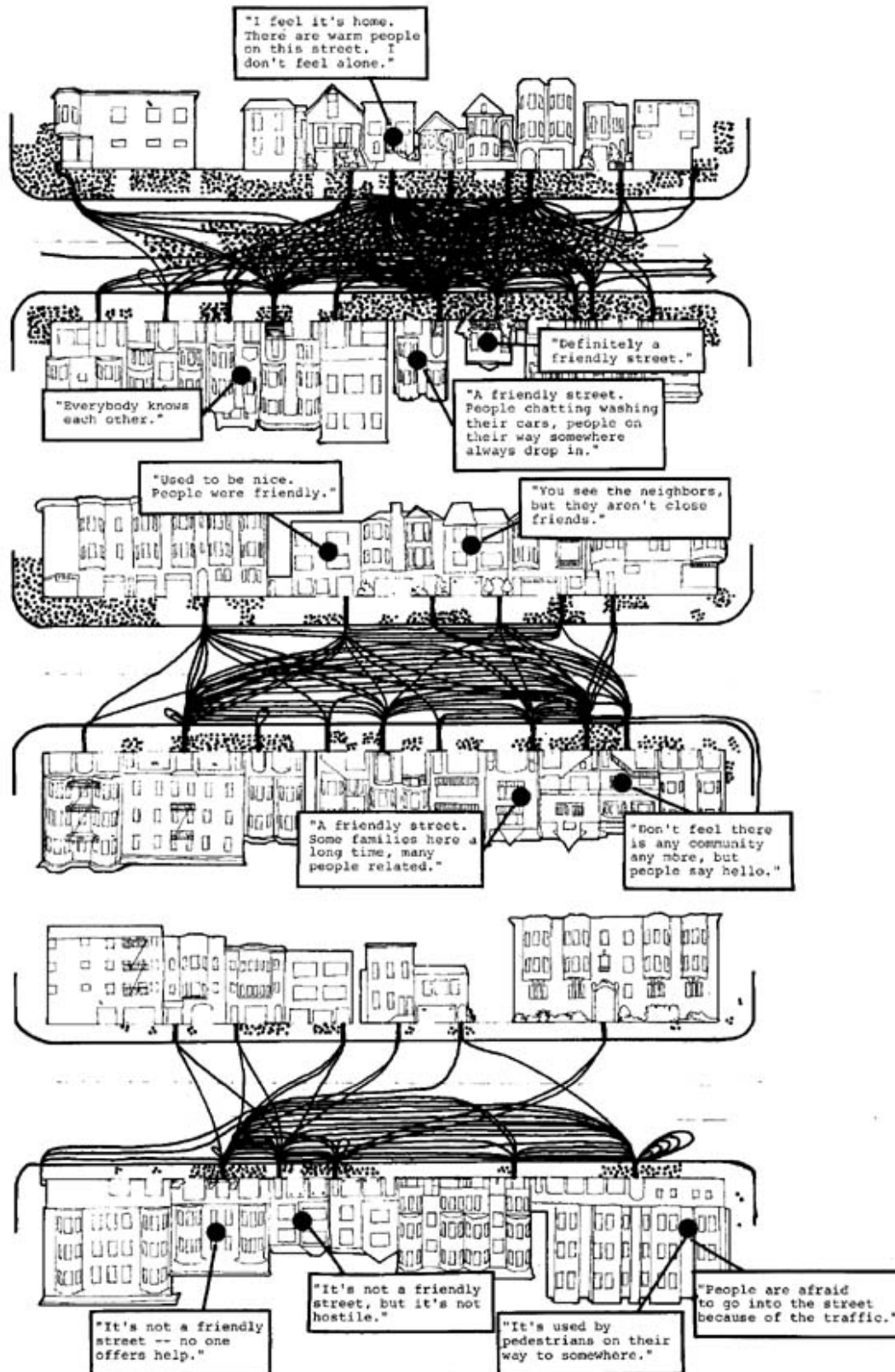
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<sup>B33</sup> University of California Press

<sup>B34</sup> [www.antic.net/tools/data/addread.asp](http://www.antic.net/tools/data/addread.asp)

### The street as an extended road notion

Part B: Theory & Methodology (Chapters 3 & 4)



**Figure 4.11:**

The image mapping of Appleyard describing three streets in San Francisco, the top (Light Street) with a motorized traffic volume of 2 000 AADT, the middle (Medium Street) with a motorized traffic volume of 8 000 AADT and the bottom (Heavy Street) with a volume of 16 000. Lines show people said they had friends and acquaintances. Dots show where people are said to gather.

### **4.5.3 Summary**

According to “Project for Public Spaces” (PPS) <sup>B35</sup> the study of Appleyard revealed great distinction between Light Street and Heavy Street:

*“Light Street was a closely knit community. Front steps were used for sitting and chatting, sidewalks for children to play and for adults to stand and pass the time of day, especially around the corner store, and the roadway for children and teenagers to play more active games like football. Moreover, the street was seen as a whole and no part was out of bounds.*

*Heavy Street, on the other hand, had little or no sidewalk activity and was used solely as a corridor between the sanctuary of individual homes and the outside world. Residents kept very much to themselves, and there was virtually no feeling of community. The difference in the perceptions and experience of children and the elderly across the two streets was especially striking”.* <sup>B36</sup>

The conclusion by PPS clearly indicates the interference of motorized traffic to restrict social street activity, firstly in using the pavements as a social arena and secondly in crossing the street and consequently not being able to socially interact with local neighbours.

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<sup>B35</sup> the official website for “Project for Public Spaces” (PPS)

<sup>B36</sup> [www.pps.org/info/placemakingtools/placemakers/dappleyard](http://www.pps.org/info/placemakingtools/placemakers/dappleyard)



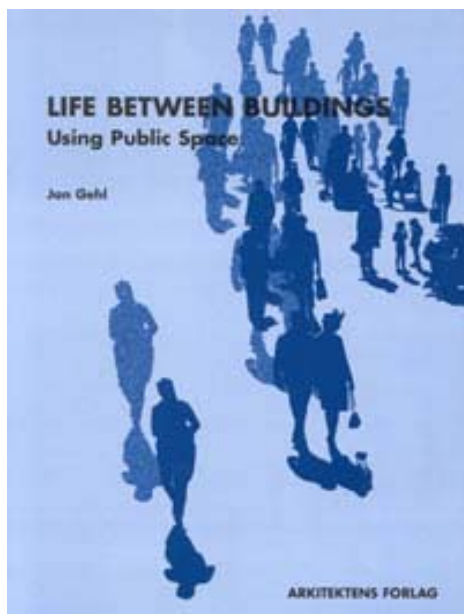
## 4.6 The social inadequacy of modernistic public space



**Figure 4.12:**  
*Jan Gehl*

“People are drawn to crowded, bustling spaces, where those unpredictable, surprising actors - other human beings - are on center stage.”<sup>B37</sup>  
– Jan Gehl<sup>B37</sup>

### 4.6.1 Theory



The theories of Jacobs were developed further by the Dane Jan Gehl. His book “Life between buildings”, first published in 1971, documented the social inadequacy of the modernistic public space, and furthermore indicated how the physical environment could be improved to become more socially attractive.

**Figure 4.13:**  
*“Life Between Buildings, Using Public Space” by Jan Gehl, 1971.*

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<sup>B37</sup> source: [www.i-sustain.com/events/janGehl.htm](http://www.i-sustain.com/events/janGehl.htm)

<sup>B37</sup> Jan Gehl (born 1936) is a Danish architect and urban design consultant based in Copenhagen and whose career has focused on improving the quality of pedestrian urban life ([en.wikipedia.org/wiki/Jan\\_Gehl](http://en.wikipedia.org/wiki/Jan_Gehl))

## 4.6.2 Methodology

Gehl divided human activities into three categories: necessary, optional and social (Figs 4.14 – 4.16).









**Figures 4.14 – 4.16**  
*Necessary (top),  
optional (middle) and  
social activities (bottom)  
as Illustrated in the book.*

Gehl concluded that only optional activities were dependent on physical environment of good quality. The professional challenge of Gehl was therefore to rehabilitate the urban space to become attractive for optional use; consequently regain the urban social scene as an alternative to the social distress of the dormitory suburb. In so

**The street as an extended road notion**

Part B: Theory & Methodology (Chapters 3 & 4)

doing, he put emphasis on the design and layout of street furniture and the characteristics of the facades and the outline of buildings to create attractive shelters for people. What Jan Gehl actually did, was to make the planners and architects of the time aware of man as a premise of civic design, stressing the inadequacy of Functionalism as a social planning ideology at both macro and micro levels. His observations were obvious but nevertheless distinct from the modernistic design approach, reminding the present planners that they had divorced themselves from the needs of common people.

	<b>The quality of the physical environment</b>	
	<b>Poor quality</b>	<b>Good quality</b>
<b>Necessary activities</b>		
<b>Optional activities</b>		
<b>Social activities</b>		

**Figure 4.17:**  
*The three categories of human activities by Gehl (1971).*

***The street as an extended road notion***

Part B: Theory & Methodology (Chapters 3 & 4)

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In 1996 Gehl, in collaboration with his associate Lars Gemzøe, developed the theories from the celebrated book “Life Between Buildings” further in the book “Public Space – Public Space”<sup>B39</sup>. In this book Gehl and Gemzøe assessed the history of pedestrian zone “Strøget” in the city centre of Copenhagen during the period 1962 – 1996.



**Figure 4.18:**  
*“Strøget”, Copenhagen, Denmark is a celebrated tourist magnet and car free pedestrian zone.*

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<sup>B39</sup> Gehl, Jan & Gemzøe, Lars: “Public Space – Public Life”, 1996, Danish Architectural Press and the Royal Danish Academy of Fine Arts, School of Architecture Publishers. Translated from the original title: “Byens Rum – Byens Liv” (1996)



**The street as an extended road notion**

Part B: Theory & Methodology (Chapters 3 & 4)

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**Figures 4.19 & 4.20:**  
*Gråbrødretorvet, 1968 (left) and 1996 (right)*



**Figures 4.21 & 4.22:**  
*Kultorget, 1950s (left) and 1996 (right)*



**Figures 4.23 & 4.24:**  
*Nyhavn, 1960s (left) and 1996 (right)*



***The street as an extended road notion***

Part B: Theory & Methodology (Chapters 3 & 4)

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The study of Gehl/ Gemzøe is highly interesting, firstly as an illustrative documentation of a conscious policy to transform the historical city centre of Copenhagen – Strøget – (Fig 4.18) from a car-based area to a pedestrian paradise, and secondly as a methodology feasible for further rehabilitation programs.



**Figure 4.25:**  
*“Strøget”, Copenhagen, a most celebrated pedestrian zone in Scandinavia.*

Over the 34 years period the area has been through drastic changes (Figs 4.19 – 4.24). The secret of the success is, according to Gehl, a conscious step by step transformation process that has been legitimated commercially, professionally, by the city councils and above by the politicians. A gradual public and political comprehension that a large urban area actually can survive and even flourish without the presence of the car, has been the key success factor for the implementation of the 34-years rehabilitation plan.

## ***The street as an extended road notion***

Part B: Theory & Methodology (Chapters 3 & 4)

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The methodology being used in the study is divided into three parts <sup>B40</sup>:

### **Part A: The City Space**

- History and urban development
- The physical characteristic of squares and streets
- Climate
- Urban scale
- Demography
- Students
- Traffic and parking
- Cyclists

### **Part B: The Life of the City**

- Pedestrian Traffic
- Social activity
- The city as public arena

### **Part C: Interviews**

- Why is the city user, and how is the city used?
- Transport to and from the study area.
- General views about city use.
- Summary

This methodology was further developed to be used in several urban rehabilitation programs, termed as the “Public Spaces & Public Life Studies”. During the 10 last years, Gehl and his associates have consulted city councils and city planning departments worldwide about the value of their public spaces and the quality of urban city life. According to PPS <sup>B41</sup>, Gehl Architects has “*recognize that making recommendations alone is often not enough to convince decision makers, many of the studies also entail extensive educational and pedagogical demonstrations of the recommendations’ benefits. Major studies of this type have been conducted for the city centers of Copenhagen, Stockholm, Oslo, Riga, Perth, Adelaide, Melbourne and London.*” <sup>B42</sup>

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<sup>B40</sup> *Freely translated from the Danish publication.*

<sup>B41</sup> “*Project for Public Spaces*”

<sup>B42</sup> <http://www.pps.org/info/placemakingtools/placemakers/jgehl>



**The street as an extended road notion**

Part B: Theory & Methodology (Chapters 3 & 4)

### 4.6.3 Summary

The “Public Spaces & Public Life Studies” introduced 12 rules how to create a successful public space on the basis of three basic human needs, namely protection, comfort and enjoyment. These rules were used in several urban rehabilitation programs. The below keyword list, derived from the presentation of the rehabilitation of the Australian city centre of Adelaide, can represent some sort of conclusion of the ideas of Gehl.

<b>P R O T E C T I O N</b>	<b>1. Protection against Traffic and accidents</b> - traffic accidents - fear of traffic - other accidents	<b>2. Protection against crime and violence (safety)</b> - lived in/ used - street life - street watchers - overlapping functions – in space and time	<b>3. Protection against unpleasant climatic extremes</b> - wind / draft - rain / snow - cold / heat - sun / glare
	<b>4. Possibilities for WALKING</b> - room for walking comfortably - un-tedious layout for streets - interesting facades - good surfaces - no obstacles - good accessibility to key points	<b>5. Possibilities for STANDING / STAYING</b> - staying zones - “Edge effect” - defined spots for staying - supports for staying	<b>6. Possibilities for SITTING</b> - zones for sitting - maximized advantages - primary sitting positions - secondary sitting positions - benches for resting
<b>C O M F O R T</b>	<b>7. Possibilities to SEE</b> - seeing-distances - unhindered views - interesting views - lighting (when dark)	<b>8. Possibilities for HEARING / TALKING</b> - low noise level - bench arrangements »talkscapes«	<b>9. Possibilities for PLAY / UNFOLDING / ACTIVITIES</b> - invitation to physical activities, play & entertainment - day & night and summer & winter
	<b>10. Scale</b> - dimensioning of buildings & spaces in observance of the important human dimensions related to senses, movements, size & behaviour	<b>11. Possibilities for enjoying positive aspects of climate</b> - sun / shade - warmth / coolness - breeze / ventilation	<b>12. Aesthetic quality / positive sense-experiences</b> - good design & good detailing - views/ vistas - trees, plants, water
<b>E N J O Y M E N T</b>			

**Table 4.1:**

*A keyword list for designing/ detailing the public space by Jan Gehl.*

## 4.7 “The City Street” - a Norwegian study

### 4.7.1 Theory

The report “Bygata” (“The City Street”) was launched during the spring 1975. Although being a simple and apparently low-cost project, it represented an important contribution to alter the prevailing transport planning strategy that gave preference to the accessibility of the car, and to attempt to promote social life and human activities as major planning premises. The report was published by NIBR (Norwegian Institute for Urban and Regional Research) and was written mostly by young academics influenced by the international opposition against the unilateral transport planning practice of the 1960s.



**Figure 4.26:**  
NIBR report 38, 1975  
"Bygata" ("The City Street")

## ***The street as an extended road notion***

Part B: Theory & Methodology (Chapters 3 & 4)



**Figure 4.27:**

*Illustration indicating the location of “Bygata” in relation to the Royal castle and the main railway station, Oslo S.*

The notion “Bygata” was constituted by three streets: the north part of Tøyengata, the short Hagegata and the south part of Økernveien, a main through route from the city centre of Oslo to the north-eastern suburbs. The area is located relatively close to the city centre and within the so-called inner city of Oslo (Fig 4.27). Tøyengata is a part of a typical 1890<sup>B43</sup> urban structure with four storey building blocks and a street width of 12,5 m<sup>B44</sup>. It had (and still has) a manifold of functions with trade activities at street level and dwellings from the second floor. The short Hagegata might be described as a boundary street marking the intermediate between the traditional gridiron urban structure and the decomposed urban structure of the 1950s. Økernveien is a main traffic artery without any urban architectural significance.

<sup>B43</sup> Oslo had an extensive growth during the last decade of the 19th Century, exemplified with Frogner and Grünerløkka, Tøyen being a minor development.

<sup>B44</sup> A traditional street width according to the Building Law of 1845.

## **4.7.2 Methodology**

The object of the project was, as described, *“to give a contribution to the discussion about the relationship between local problems and public plans. We also want to illustrate that a comprehension of local problems requires an extensive knowledge of local conditions within the city borough itself and within the particular street.”*<sup>B45</sup> To meet the aim to comprehend local problems, the report presents a methodology of several appraisals that supplement the traditional traffic analysis, including car traffic and traffic accidents, by the following aspects:

- Trade and activity functions
- Demographical conditions
- Pedestrian traffic
- Outdoor activity areas
- Attitudes (pedestrians, occupants, students)
- Environmental strains (noise, pollution)

The appraisal of the above aspects represented a creative approach to better recognize the whole traffic conditions in the area and the environmental consequences of car traffic. Today analysis about environmental strains is compulsory as part of the general planning process. However, the other aspects mentioned are rarely considered in current planning.

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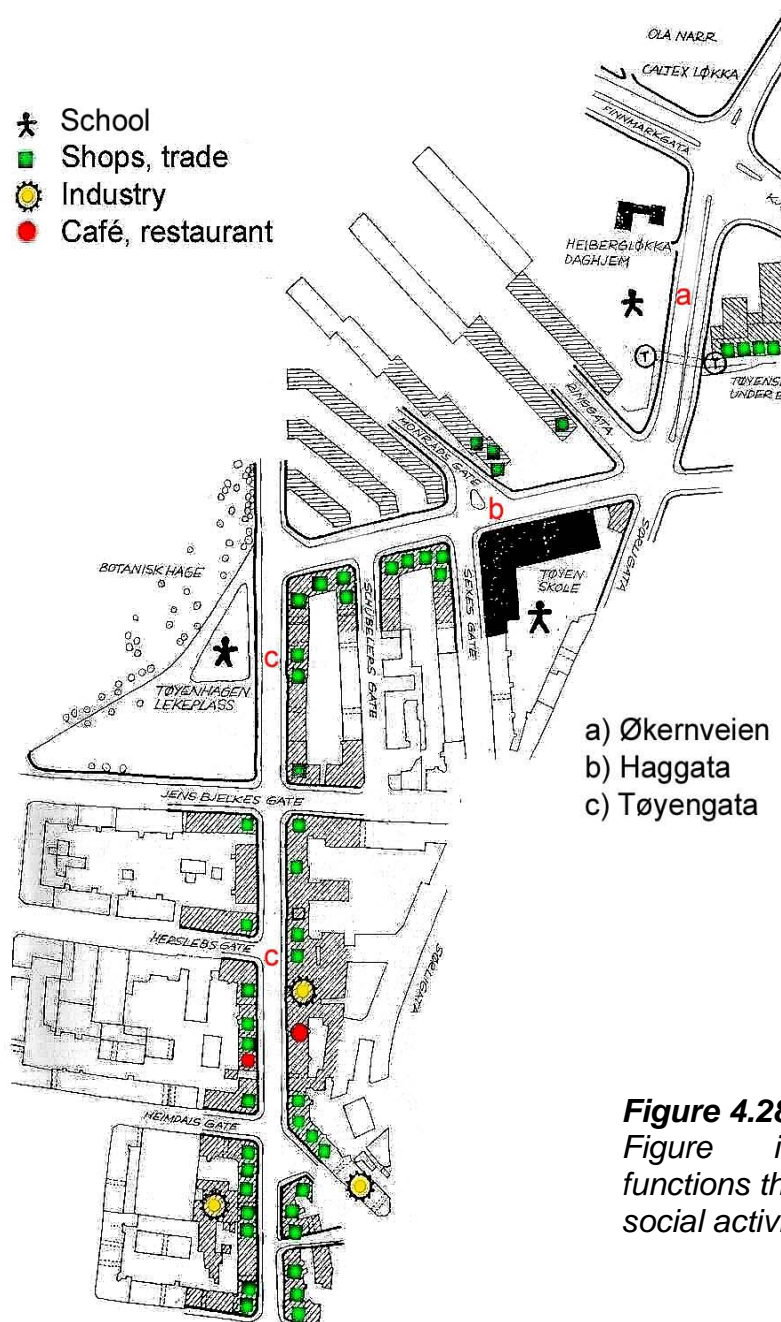
<sup>B45</sup> *Translated. NIBR rapport 38 "Bygata", p 3.*

### The street as an extended road notion

Part B: Theory & Methodology (Chapters 3 & 4)

## Trade and activity functions

Trade and activity functions of the street are illustrated in Fig 4.28, indicating how such non-traffic functions are located in Tøyengata and consequently linked to the traditional urban structure.



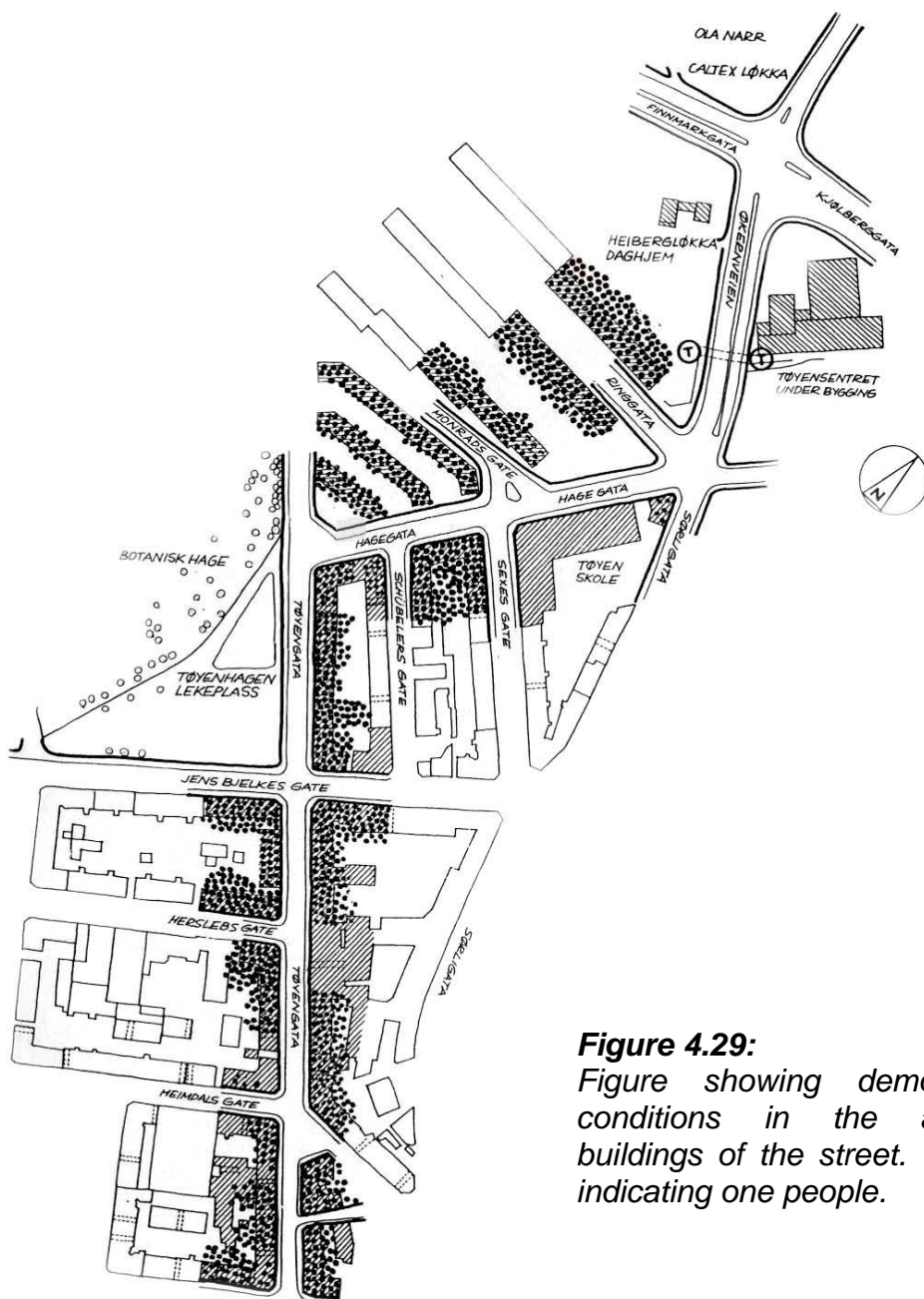
**Figure 4.28:** Figure indicating non-traffic functions that contribute to social activity.

### The street as an extended road notion

Part B: Theory & Methodology (Chapters 3 & 4)

## Demographical conditions

The adjacent area of the street had 1600 inhabitants, 360 elderly (above the age of 67) and 170 children (below the age of 6). In addition to the inhabitants, there were 950 children attending Tøyen primary school and Heibergløkka kindergarten, and an unknown number of employees in the 60 different business enterprises.



**Figure 4.29:** Figure showing demographic conditions in the adjacent buildings of the street. One dot indicating one people.

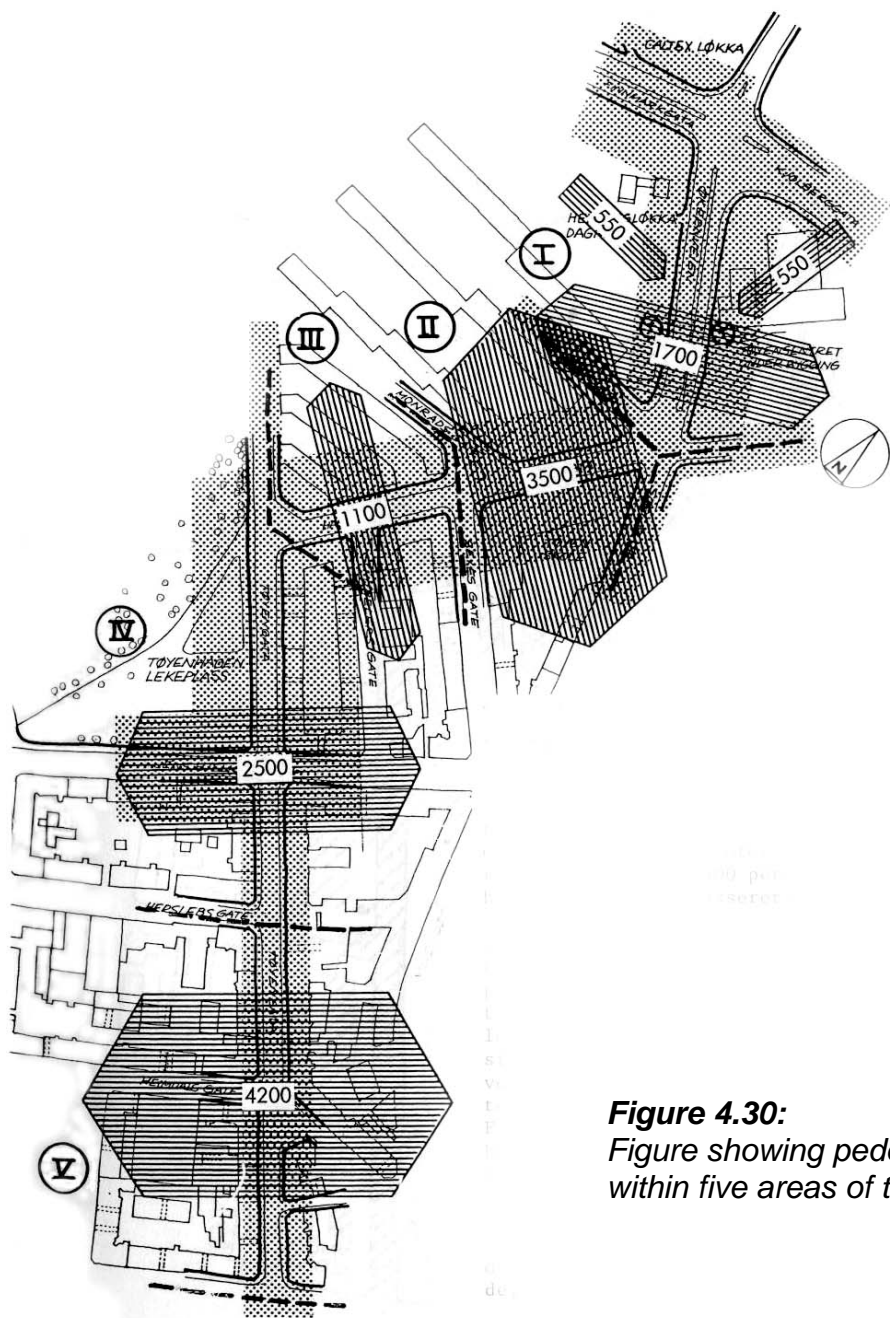


**The street as an extended road notion**

Part B: Theory & Methodology (Chapters 3 & 4)

## Pedestrian traffic

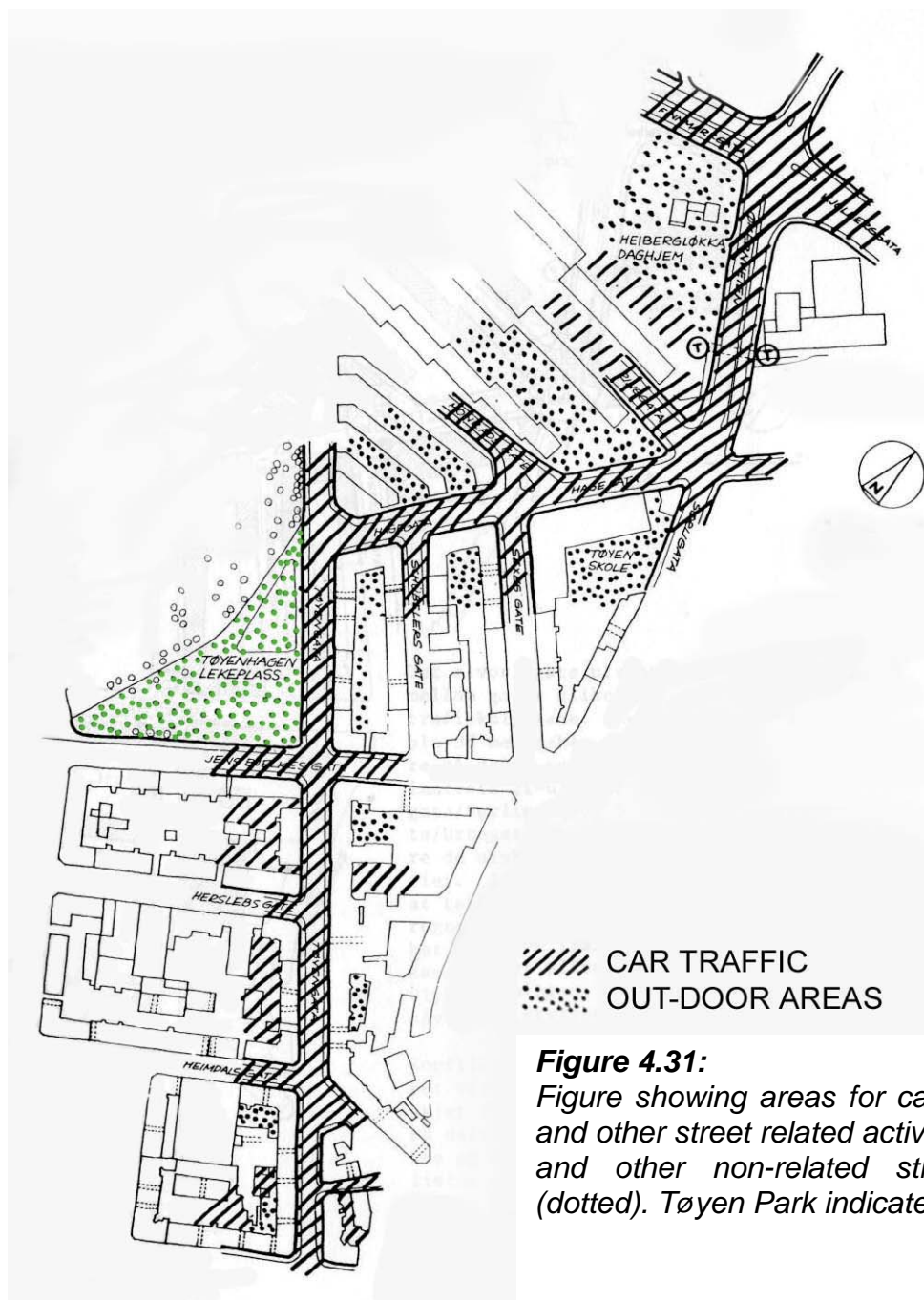
Figure 4.30 indicates the daily pedestrian traffic within the street with emphasis on crossing activities. All crossings take place at street level and the only street junction with traffic lights is Finnmarksgata – Økernveien (top right, Fig 4.30).



**Figure 4.30:**  
Figure showing pedestrian activities within five areas of the street.

## Outdoor activity areas

Figure 4.31 shows the various outdoor activity areas within and in the adjacent areas of the street. At the time cars totally dominated the street, making it unsuitable as a social arena and depriving it from being a pleasant place to shop or to stay longer than necessary. The only pleasant outdoor area in the neighbourhood was (and probably still is) Tøyen Park, an integrated part of the Botanic Museum of Oslo.



**Figure 4.31:**  
Figure showing areas for car traffic, trade and other street related activities (hatched) and other non-related street activities (dotted). Tøyen Park indicated with green.

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## **Attitudes (pedestrians, occupants, students)**

The aspects that differentiate the “Bygata”-project from a traditional planning appraisal of the times was particularly the registration of the attitudes towards car traffic among pedestrians, occupants and students. Such registration gives the planner important information. However, although planners actually organize the physical environment for others, such vital input is rarely included as a planning premises, neither during the 1970s nor in present.

The report concluded that pedestrians and cars occupied the street together. Consequently, as pedestrians had no privileges in “Bygata” they had limited accessibility especially in crossing the street, exemplified by the statement from one of the interview objects: *“When I came home today, I had to wait more than 15 minutes to cross Hagegata!”*<sup>B46</sup>

Hasty movements and a speedy reaction were required to be able to navigate relatively safely as a pedestrian within “Bygata” and particularly across it. Such skills excluded a high proportion of the population, for instance elderly and children in addition to people with various types of physical disability. As a consequence, approximately 50% of the recorded personal injuries due to car traffic affected pedestrians. The high risk of being involved in traffic accidents is well documented in the report, both orally and through illustrations. Figures 4.32 and 4.33 presents two drawings by an approx 9 years old local pupil illustrating the gloomy reality and the ideal situation for a domestic environment with the cars replaced by trees and playground facilities. The risk of being exposed to traffic injuries was not only real, but represented a sense of insecurity that marked the everyday life of the local occupants: *“I am never out in the evenings because the cars have much higher speed at that time”.*<sup>B47</sup>

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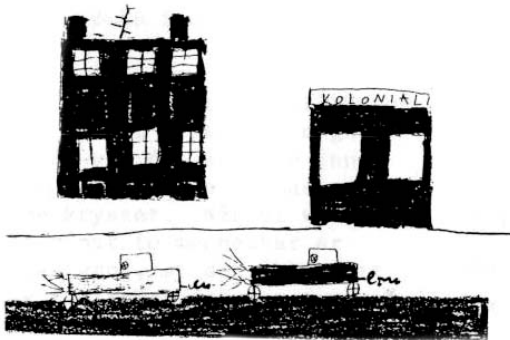
<sup>B46</sup> NIBR rapport 38 “Bygata”, s 14

<sup>B47</sup> NIBR rapport 38 “Bygata”, s 16

***The street as an extended road notion***

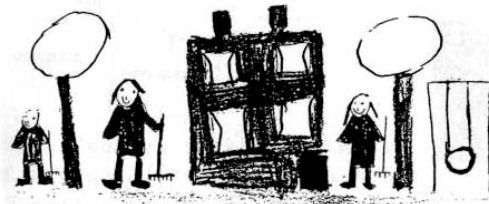
Part B: Theory & Methodology (Chapters 3 & 4)

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**Figures 4.32 & 4.33:**

*A statement of a 9 years old local pupil, expressing the dream of a more satisfactory playing environment.*



The following conclusion was presented with regard to attitudes towards car traffic:

Lack of safe outdoor areas:

- the street is a dangerous place for stay.
- the internal yards is generally occupied by parked cars, stores and sheds.
- it is dangerous to cross the street to get to the park.
- It is not allowed to play in the Botanic Garden (part of the Tøyen Park).

Difficult conditions for pedestrians:

- the access to school is dangerous.
- have to wait a long time to cross the street.
- small children are not able to walk by themselves to the park.
- parked cars are obstructing feasible visibility.

## **Environmental strains**

Environmental strains, such as air pollution and noise, have always been a negative consequence of car traffic. The report gives clear evidence that such strains severely affected the life of the occupants within “Bygata” and in the adjacent area to the street. Nearly 50% of the occupants being disturbed by noise claimed that car traffic was the dominant source. The intensity of car traffic between 6 000 and 15 000 cars a day resulted in a noise level over 70 dB(A) at some points exceeding the recommended level of 55 dB(A). It is impossible to talk comfortably with such background noise. Consequently, the noise due to car traffic destroyed the street as a social arena.

Air pollution is another consequence of car traffic that is well documented in the report and is a major problem. Air pollution is primarily a health problem and secondary a problem with regard to a dirty environment. The following conclusions were presented with regard to environmental strains as a consequence of car traffic:

- the location of the kindergarten is injurious to the health
- the kindergarten has no protected outdoor area
- the local school has windows with single glazing with poor noise insulation
- disturbing noise level outside the school building
- disturbing noise level from heavy traffic at night
- busses are more disturbing than cars
- car traffic represents a disturbing element for commercial trade/ shops
- the noise level exceeds the recommended level for a residential area
- the kindergarten is located too close to the street
- children that have no protected play areas have no alternative than the pavement where the air pollution has the highest concentration
- the elderly and people at home with limited mobility have to breathe polluted air 24 hours
- flats that have no windows facing the back yard have poor ventilation

**The street as an extended road notion**

Part B: Theory &amp; Methodology (Chapters 3 &amp; 4)

**4.7.3 Summary**

The report provides concrete evidence about how car traffic is effecting the living environment negatively for the occupants within “Bygata” and in the adjacent surroundings. Futhermore it suggests concrete measures how to improve the situation both in short-term and in long-term. The measures are as follows:

<b>Objectives:</b>	<b>Measures:</b>
To reduse and regulate car traffic	<ul style="list-style-type: none"> <li>• To cancel plans for a flyover in Økernveien.</li> <li>• To cancel plans for four line traffic in Hagegata.</li> <li>• To regulate two line traffic in “Bygata”.</li> <li>• To establish traffic lights in three junctions along “Bygata”.</li> <li>• To improve traffic signs.</li> </ul>
To improve the conditions for pedestrians	<ul style="list-style-type: none"> <li>• To widen the street pavements at the expence of driving area.</li> <li>• To regulate street junctions with traffic lights.</li> <li>• To repair pedestrian crossings with improved markings and signs.</li> <li>• To reduce the distance between pedestrian crossings.</li> </ul>
To protect the residential environment	<ul style="list-style-type: none"> <li>• To retain the building functions on the street level with shops and trade. No dwellings on the ground floor as suggested in “Soneplanen”.</li> <li>• To cancel the plans of regulating the Kielland candy factory into dwellings.</li> <li>• To convert the existing 1 bedroom flats into 2-3 bedroom flats by joining two and two together.</li> <li>• To ban heavy traffic at night.</li> <li>• To insulate windows facing the street.</li> <li>• To clean up the back yards and convert them into playgrounds.</li> <li>• To establish play areas in side-streets.</li> </ul>
To protect the school and the kindergarten	<ul style="list-style-type: none"> <li>• To move the local playground from “Bygata”.</li> <li>• To establish a noise barriere to shelter Heibergløkka kindergarten.</li> <li>• To expand the schoolyard at Tøyen school.</li> <li>• To insulate the classroom windows facing the street against noise.</li> <li>• To establish mechanical ventilation in the school.</li> </ul>

**Table 4.2:**

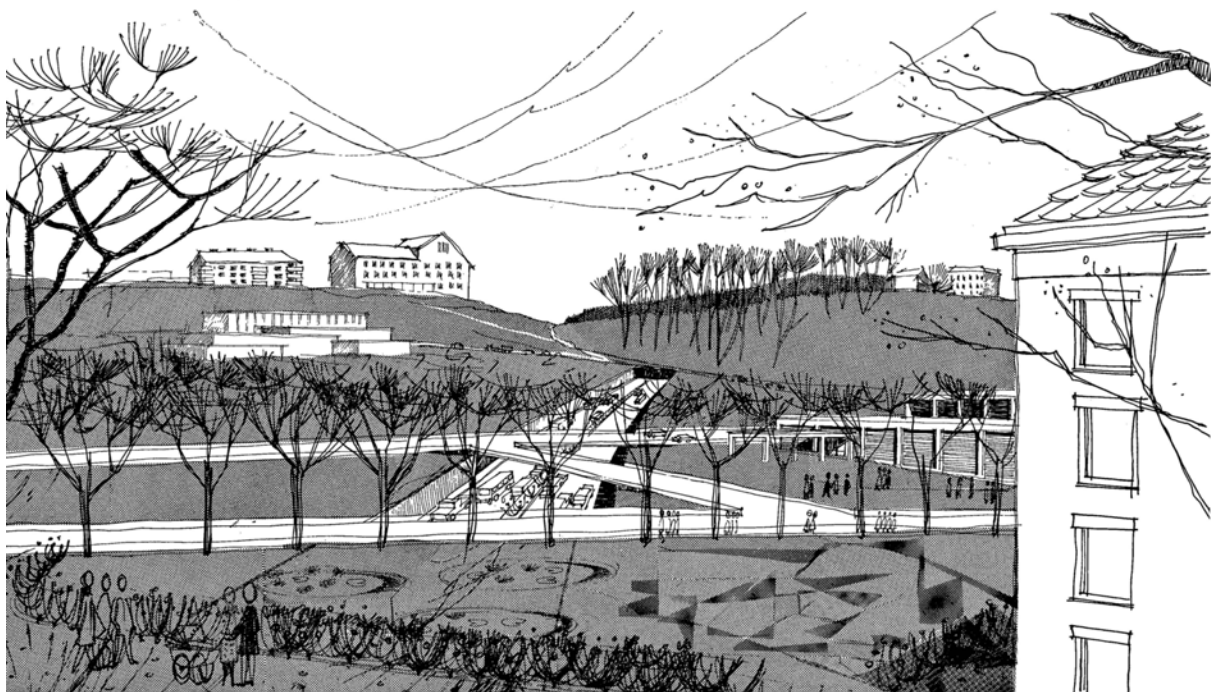
*The suggestions by the report to improve the negative living conditions in “Bygata” as a consequence of car traffic.*



***The street as an extended road notion***

Part B: Theory & Methodology (Chapters 3 & 4)

The 1970s represented a periode of upheaval regarding transport planning. The functionalistic approach to urbanism with the urban motorway as an ideal was still prevailing among most transport planners as the architects were influenced by the international revolt against the negative effects of urban transportation. The ideas and the attitudes presented by the "Transport Analysis" for Oslo from 1965 (Fig 4.34) had still a great impact among traditional transport planners while road safety and a genuine concern about the welfare of urban occupants found wider ground.



**Figure 4.34:**

*The "Transport Analysis" for Oslo from 1965 might symbolize the modernistic approach to city planning by the mid 1960s, when transport planners and architects cooperated symbiotically to transform the historical city into a produce of the car. This is the proposed new urban motorway at Tøyen seen from Økernveien towards north, a junction within the study area of the "Bygata"-project.*

***The street as an extended road notion***

Part B: Theory &amp; Methodology (Chapters 3 &amp; 4)

The study-area of the “Bygata”-project was subject to three overall plans:

- a) An overall transport plan proposing a flyover in the junction Økernveien-Finnmarksgata (a produce of the ”Transport Analysis” of 1965, Fig 4.34).
- b) A local “zone plan” proposing to convert the commercial functions at street level into dwellings in order to promote more housing facilities in the inner city.
- c) A plan for “street use” proposing a traffic redevelopment scheme introducing a highly differentiated street network giving a selection of streets a function as main through routes excluding them from have commercial and social activities.

In relation to “Bygata”, plan B and plan C were contradictory as the report points out. The “zone plan” presupposed an increase in housing along the street while the “street use plan” presupposed a considerable increase in car traffic. This type of planning might represent an example of the paranoid approach to solving traffic problems of the time. The report concludes that a condition to improve the unsatisfactory conditions is that the car traffic subordinated to the activity and needs of the pedestrians and the residents. This applies to the current and internationally accepted strategy to solve the urban traffic problems implying low speed (at 30 km/h) and narrow lanes for car traffic.

However, the suggestions made by the report were merely partly met. The simple measures, such as the establishment of traffic signals and different types of noise insulation, have been partly implemented. Subsequent to the report the area was the object of the most radical traffic redevelopment scheme in Oslo at the time with the result that Tøyengata was closed to through car traffic (with exception to bus) and Hagegata and Økernveien became major through traffic routes (Figs 4.35 & 4.36). Simultaneously, Hagegata/ Økerveien became a part of the major transport system in Oslo. As a consequence Tøyen School and the local kindergarten are probably suffering from more car traffic today than ever before <sup>B48</sup>. Thus, the executed “street use plan” improved the the living conditions for the local residents in Tøyengata while the situation in Hagegata/ Økernveien has been aggravated. Consequently, the question presented by the report is as valid today as it was 30 years ago: *“Is it correct*

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<sup>B48</sup> *The number of cars passing Tøyen School is according to the report 13 700 a day. This Figure is unchanged in the last available survey of 1989. It is, however, reason to believe that the Figure has increased considerable since then.*

**The street as an extended road notion**

Part B: Theory & Methodology (Chapters 3 & 4)

that the occupants of “Bygata” who must endure the strain caused by car traffic to and from the suburbs, or should the environmental living considerations in the inner city induce the motorist to find other alternatives to travel than the car”<sup>B49</sup>.



**Figures 4.35 & 4.36:**

Fig 4.35 (above) showing “Bygata” as regulated in 1975.

Fig 4.36 (below) showing schematically the new traffic system implemented at Tøyen during the late 1970s:

blue: illustrating the main north/south traffic route through Oslo linking E6 and E18.

Dotted part indicates a flyover.

red: illustrating the main traffic route to/ from then north-east suburbs.

green: illustrating the part of Tøyengata being closed to car traffic with exception from the bus.



<sup>B49</sup> NIBR rapport 38 “Bygata”, p 36

***The street as an extended road notion***

Part B: Theory &amp; Methodology (Chapters 3 &amp; 4)

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The request by the report to consider a more versatile planning process has hardly been met in the years subsequent to 1975. The report stressed that the technical premises that influenced the transport plans of the time had to be supported by social scientific methods and knowledge. This lack of social awareness is still prevailing as transport planning even now is a highly sectorized discipline with emphasis on traffic function. Today there is an overall aim to reduce car traffic by transferring car transport to public transport. However, the basic needs of the urban occupants are hardly considered. Thus, the “Bygata” report drew attention to basic insufficiencies in the transport planning of the mid 1970’s which is still evident today.

Finally, the report recognizes the insoluble conflict between a satisfactory living environment and car traffic in urban areas. The answer, the report suggests, is that the planners are compelled to acknowledge contradictory interests at all levels: “*for the city as a whole as for the particular streets, the final plan must express a compromise between various interests according to a common objective*”.<sup>B50</sup> It is easy to agree with such conviction. However, with regard to car traffic one might have expected a more overall appraisal of the role of “Bygata” as part of the main transport system of Oslo. Thus, one tends to argue that the report is falling into the same pattern, or trap, as the planning practice it is denouncing.

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<sup>B50</sup> NIBR rapport 38 “Bygata”, p 37

## 4.8 Rediscovering the city



**Figure 4.37:**  
*William H. Whyte*

“It is difficult to design a space that will not attract people. What is remarkable is how often this has been accomplished”<sup>B51</sup>

- William H. Whyte<sup>B52</sup>

### 4.8.1 Theory

The book “City- Rediscovering the Center” was first published in 1988 by William H. Whyte to appraise the social use of urban streets and to give guidelines how to design and manage urban spaces to affect social use positively. In 1988 Whyte had experienced great success as a sociologist and an author with the book “The Organization Man” (1956) as probably the most celebrated. “City- Rediscovering the Center” might be considered as a continuation of the book “The Social Life of Small Urban Spaces”, published in 1980. The two books must be regarded as a summary of the “Street Life Project”, a pioneering study of pedestrian behaviour that Whyte introduced after working with the New York City Planning Commission in the late 1960s. During this work Whyte became increasingly concerned about whether the newly developed city centres actually had turned out to be the social arenas as intended by planning. To find out, “The Street Life Project” made observations and film analysis of communal plazas, streets, parks and other type of open spaces.

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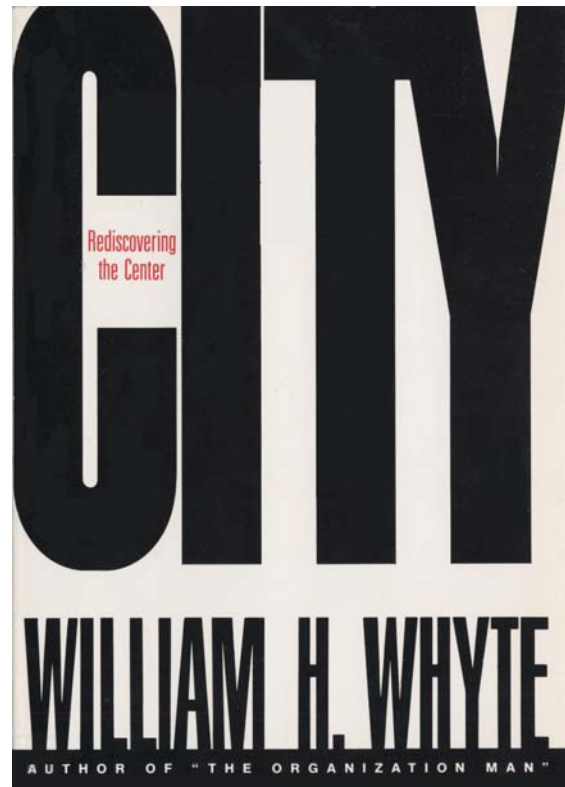
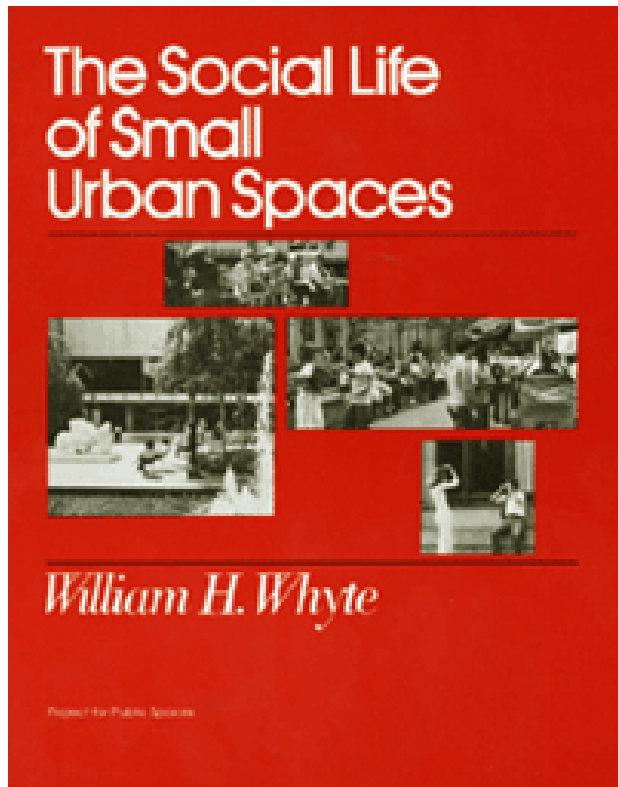
<sup>B51</sup> Whyte, William H.: “City – Rediscovering the Center”, Doubleday, New York 1988, p 109

<sup>B52</sup> William H. (Holly) Whyte (1917-1999), sociological writer who is considered the mentor for the Project for Public Spaces (PPS), a non-profit organization dedicated to creating and sustaining public places.

***The street as an extended road notion***

Part B: Theory & Methodology (Chapters 3 & 4)

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***Figures 4.38 & 4.39:***

*Fig 5.29 (left) showing the front cover of the book “The Social Life of Small Urban Spaces” (1980).*

*Fig 5.30 (right) showing the front cover of the book “City – rediscovering the Center” (1988).*

Pedestrians in this chapter include all people on foot in the street preferably located on the pavement. The various types of pedestrians illustrate the manifold of the street; the variation and number of pedestrians indicating the ability of the street to attract people. Pedestrians represent many different categories distinguished into three groups (as defined by this thesis): transport activity, commercial activity and social activity. Without expressing it directly, in his book Whyte differentiates such activities into formal and informal street use, or according to Jan Gehl, necessary and social activities. Thus, if the street attracts social activity informal use will occur in supplement to the formal use.



## ***The street as an extended road notion***

Part B: Theory & Methodology (Chapters 3 & 4)

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### **Social activity**

From the intuitive analysis of the “The Street Life Project” emerged, which according to the PPS biography is, “*an extremely human, often amusing view of what is staggeringly obvious about people’s behaviour in public spaces, but seemingly invisible to the inobservant*”. Furthermore, Whyte stated according to the same biography: “*that the social life of the public spaces contributes fundamentally to the quality of life of individuals and society. He suggested that we have a moral responsibility to create physical places that facilitate civic engagement and community interaction*”.<sup>B53</sup>

Whyte described the urban street as “*...the river of life of the city, the place where we come together...*”<sup>B54</sup> There are the social characteristics of such street interaction that Whyte is examining and so poetically describes in the book “City – Rediscovering the Center”. The arena for his observations was down town New York. New York is an urban metropolis with an intact street structure being undisturbed by the effects of what Whyte described as the war against the street: “*in a kind of holy war against the street, cities are putting people up in overhead skyways, down in underground concourses- everywhere except street level.*”<sup>B55</sup>



**Figure 4.40:**  
*Whilliam Whyte in the process of observing the human behaviour within the city center.*

<sup>B53</sup> [www.pps.org/info/placemakingtools/placemakers/wwhyte](http://www.pps.org/info/placemakingtools/placemakers/wwhyte), p 3

<sup>B54</sup> Whilliam H. Whyte: “City – Rediscovering the Center” (Doubleday 1988), p 7

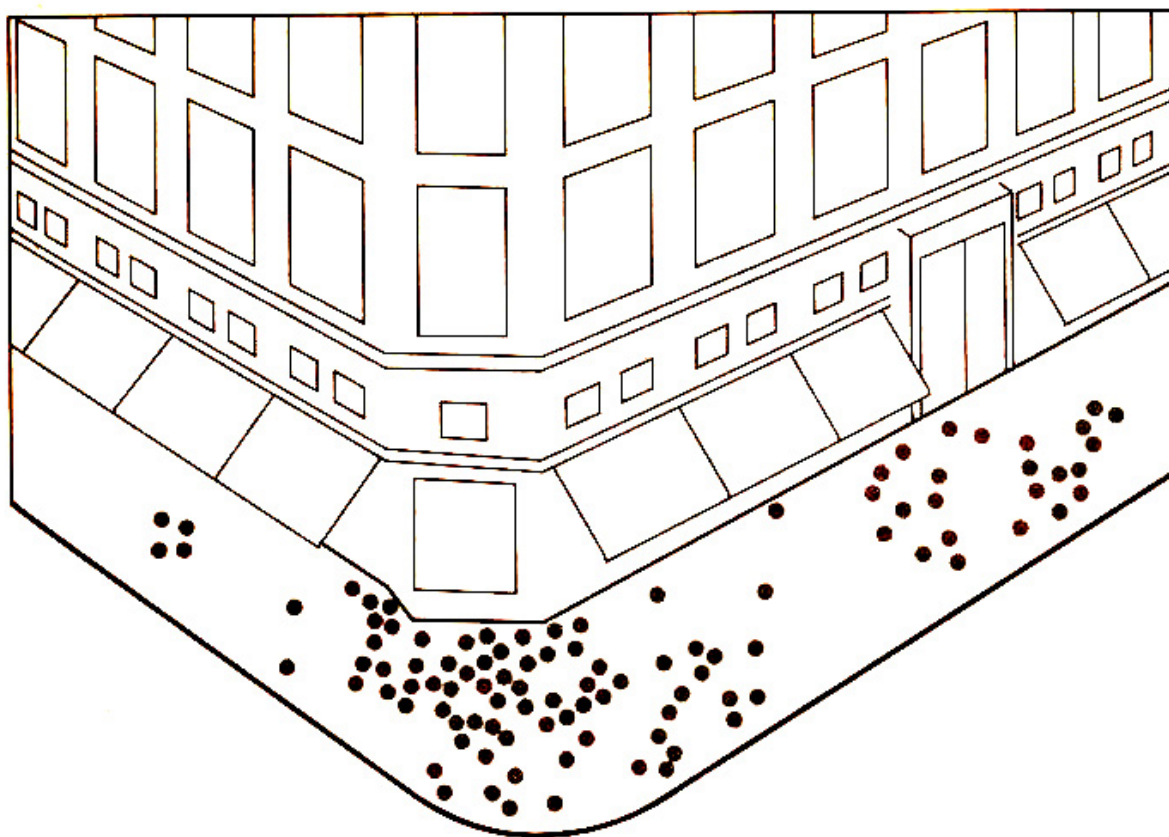
<sup>B55</sup> Whilliam H. Whyte: “City – Rediscovering the Center” (Doubleday 1988), p 7

***The street as an extended road notion***

Part B: Theory & Methodology (Chapters 3 & 4)

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Within this true urban environment, the interaction among street users having a conversation exceeding two minutes was observed by Whyte partly to his surprise and partly according to his expectations. His photographic surveillance illustrated the tendency by street users to intermingle at the busiest spots of the pavement, for instance at street corners or within the most busy pedestrian streams. Rather than find a quite and sheltered hideaway as the ideal location for a conversation, people favour the crowded sidewalk preferably a spot that attracted most people, seemingly unaffected by heavy car traffic and other disquieting elements (Fig 4.41).



**Figure 4.41:**

*Location of street conversations lasting two minutes or more outside the megastore Saks at the busy corner of 5<sup>th</sup> Avenue and 50<sup>th</sup> Street.*

## Transport activity

Formal pedestrian transport activity is limited to walking, using the pavement as a transport route with the sole purpose to move from one place to another. Whyte describes the formal pedestrian as “the Skilled Pedestrian”. He shows how transport planners build physical pedestrian implementations described as “*automated people-mover systems*” that cost millions, and ignoring the fact that people themselves provide the best planning premise with the following simple characteristics <sup>B56</sup>:

- *Pedestrians usually walk on the right.*
- *A large proportion of pedestrian are people in pairs or threesomes.*
- *The most difficult to follow area pairs who walk uncertainly, veering from one side to another. They take two lanes to do the work of one.*
- *Men walk somewhat faster than women.*
- *Younger people walk somewhat faster than older people.*
- *People in groups walk slower than people alone.*
- *People carrying bags or suitcases walk about as fast as anyone else.*
- *People who walk on a moderate upgrade walk about as fast as those on the level.*
- *Pedestrians usually take the shortest cut. In some pedestrian malls curving pathways have been outlined in the paving. Pedestrians ignore them. They stick to the beeline.*
- *Pedestrians form up in platoons at the lights and they will move in platoons for a block or more.*
- *Pedestrian often function most efficiently at the peak of rush-hour flows.*

Whyte claims that the New York pedestrians are the best: fast, adroit, aggressive and accommodating at the same time. They perform an interacting language by signaling their intentions to each other: “*a shift of the eyes, a degree or so off axis, a slight move of the hand, a wave of a folded newspaper.*” <sup>B57</sup> Thus, what Whyte describes a “the

<sup>B56</sup> Whilliam H. Whyte: “*City – Rediscovering the Center*” (Doubleday 1988), p 57

<sup>B57</sup> Whilliam H. Whyte: “*City – Rediscovering the Center*” (Doubleday 1988), p 61

## ***The street as an extended road notion***

Part B: Theory & Methodology (Chapters 3 & 4)

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“Skilled Pedestrian” seems to be a big city phenomenon. As the book concludes: “people in big cities walk faster than people in small cities”<sup>B58</sup>. To attain satisfactory accessibility within a crowd, necessary mobility techniques and a communicating body language is required.

### **Commercial activity**

The most common commercial activities among pedestrians take place within shops and supermarkets along and adjacent to the street. Such commercial activity might be described as formal. However, if the street is busy and attractive enough it might attract a wide range of commercial participants described pictorially by Whyte as “Street People”:

- The Vendors, selling everything imaginable mostly illegally.
- The Entertainers, executing their talent for pay.
- The Handbill Passers, supplying commercial and non-commercial information.
- The Beggars, converting compassion into merchandise.
- Pitchmen for Causes, selling conviction and faith.
- Pickpockets and other Crooks, performing predatorily dexterity.
- Dope Dealers, Whores and Pimps: dealing in human misery.

Such untraditional activities are informal, partly illegal and apparently unorganized. Nevertheless, they contribute to the character of the street negatively or positively and confirm that the street has attained a commercial and most probably a social significance and status. One might argue that the true evidence of a successful commercial street is precisely the presence of such “Street People” in addition to the traditional chain stores—two diametrical opposites in the world of commercial business.

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<sup>B58</sup> Whilliam H. Whyte: “City – Rediscovering the Center” (Doubleday 1988), p 65

## 4.8.3 Summary

### Street design

Although the main message of Whyte is to emphasize that the most fascinating things about the street are the interchanges between people that take place in it, he devotes several chapters of the book to technical treatment of urban spaces. As the ultimate purpose of urban planning might be described as the art of enabling natural interaction among city dwellers within the urban landscape of the city, the street is probably the most important arena for such outdoor activity and should be designed accordingly. Whyte illustrates how the physical characteristics of certain New York streets influence human interaction and presents physical implementations that invite such communication and those that have a discouraging effect.



**Figure 4.42:**

*Lexington Avenue offering a pavement with an effective walkway down to 1, 0 m due to physical obstacles.*

***The street as an extended road notion***

Part B: Theory & Methodology (Chapters 3 & 4)

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Whyte devotes much reference to the characteristics of streets on how they apply to the needs of pedestrians. Within the street, Whyte argues, there are many obstacles that prevent a feasible accessibility for pedestrians (Fig 4.42).

Firstly, the attitude by the transport authorities against the priority of pedestrians such as poor maintenance (pavements being cracked and full of holes) and inadequate planning: *“One of the most hallowed of planning concepts is the separation of pedestrian from vehicular traffic. This is for the benefit of vehicles, so they will get the prime space”* <sup>B59</sup>.

Secondly, the various types of physical obstacles to pedestrian accessibility, such as for instance:

- Poor public design (obstructing location of light poles, traffic signs, trash containers and other types of street furniture).
- Commercial street equipment such as signs, floral displays, vendor’ tables and various types of commercial street furniture (Fig 4.43).
- Steps (a usual hindrance but can also provide feasible seating).
- Bicycles (an increasing problem in late 1980s, probably accelerating today).
- People (pedestrians themselves and the so-called street people as described).

However, most so-called obstacles might contribute to the chaos that often is appreciated among street users. The most celebrated streets both socially and commercially are characterized by a manifold of functions and physical implementations of various kinds. Such manifold is welcomed by the street user but evaded by the planner in the aspiration to create well organized spaces.

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<sup>B59</sup> Whilliam H. Whyte: *“City – Rediscovering the Center”* (Doubleday 1988), p 68



## ***The street as an extended road notion***

Part B: Theory & Methodology (Chapters 3 & 4)

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**Figure 4.43:**

*The charming chaos of Chinatown, New York: the street user's paradise and the planner's nightmare. Here the street users seem to appreciate the multitude of physical obstacles.*

## **The Design of Urban Spaces**

Most of Whyte's book deals with the art of designing public spaces that provide people with a feasible physical environment to interact and/or to carry out leisurely activities; put simply: to create urban spaces that attract people. However, this appears to be a difficult task: *"It is difficult to design a space that will not attract people. What is remarkable is how often this has been accomplished"* <sup>B60</sup>. Whyte repeats the reminder by Jan Gehl that the city planners of the 1970s had divorced themselves from the needs of common people. For instance, a survey of the use of a large number of seating facilities within the study area of New York City elicited a far from sensational

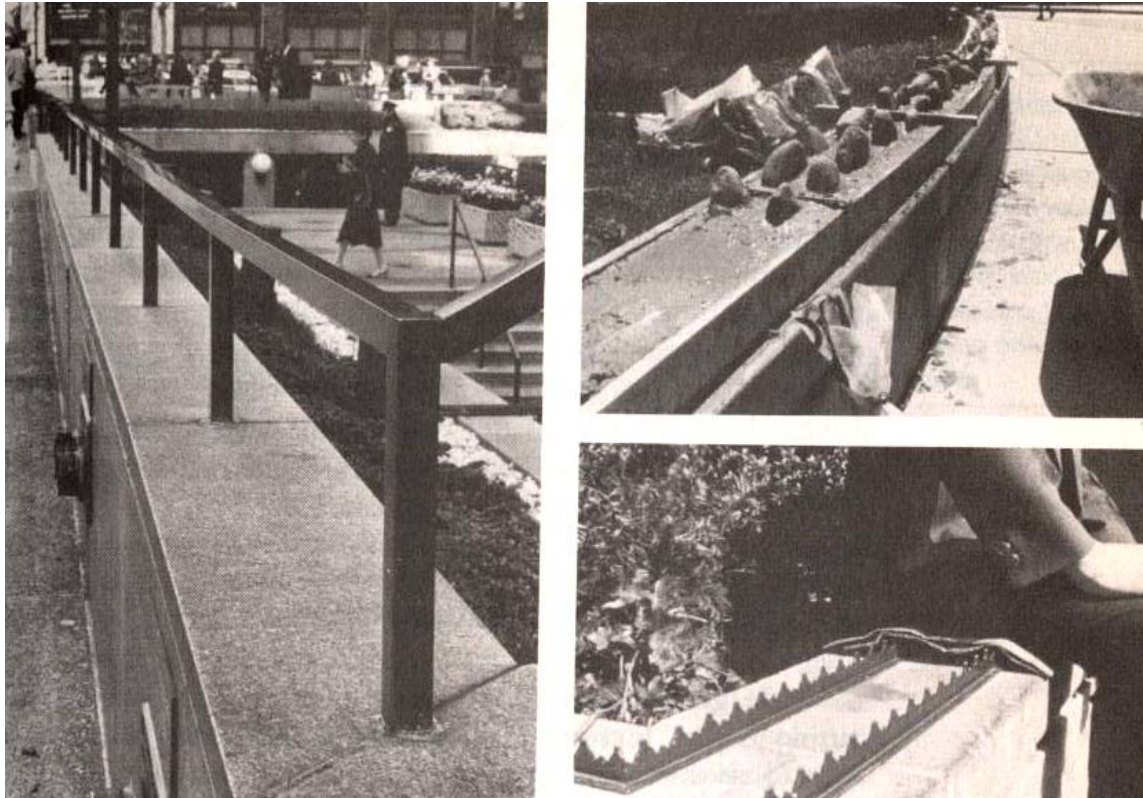
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<sup>B60</sup> Whilliam H. Whyte: *"City – Rediscovering the Center"* (Doubleday 1988), p 109

***The street as an extended road notion***

Part B: Theory & Methodology (Chapters 3 & 4)

conclusion: “*People tend to sit most where there are places to sit*”<sup>B61</sup>. It might seem like urban planners often make an effort to prevent people from sitting within the urban space rather than promoting it (Figs 4.44 - 4.46).



**Figures 4.44 – 4.46:**

As Whyte expresses: “*Most ledges are inherently sittable. With ingenuity and additional work, they can be made unsittable*”.

Whyte presents, like Gehl, various physical implements suitable for seating, the bench being described as the least appropriate. More important than the actual seating implement however, is as Whyte points out, their mutual arrangement, location related to the street and so forth. Other important premises for planning a true social urban environment are, according to Whyte, water, wind, trees and light, natural elements that strongly influences how the urban space is being used. And, of course, not to forget, the various commercial and cultural establishments and objects that both attract people and enrich their experience of the city.

<sup>B61</sup> Whilliam H. Whyte: “*City – Rediscovering the Center*” (Doubleday 1988), p 110

***The street as an extended road notion***

Part B: Theory & Methodology (Chapters 3 & 4)

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Finally, Whyte gives an account for the challenge of creating traditional social arenas within the new urban self-contained megastructures and the semi-cities consisting of sprawling buildings with their separate urban structure totally divided from the street ignoring the appreciated conventional street activity: “*Suburban shopping malls are not the new town centers. They lack or forbid many of the activities of a center, soapboxers, controversy, passing of leaflets, impromptu entertainment, happenings, or eccentric behaviour of any kind, including persistent non-buying*”<sup>B62</sup>. Suburban developments contribute, according to Whyte, to “dullify” the traditional downtown. Whyte presents a questionnaire for establishing the level of “dullification” of a downtown in such suburban transformation; “*the higher the score the more likely the city is to be one that has lost its ego, its sense and pride of place, its awareness of where it come from and where it is going*”<sup>B63</sup>:

- *Was much of downtown successfully razed under urban renewal?*
- *Is at least half of downtown devoted to parking?*
- *Have municipal and county offices been relocated to a campus?*
- *Have streets been de-mapped for superblock development?*
- *Have the developments included an enclosed shopping mall?*
- *Have they been linked together with skyways?*
- *Have they been linked together with underground concourses?*
- *Is an automated people-mover system being planned?*

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<sup>B62</sup> Whilliam H. Whyte: “*City – Rediscovering the Center*” (Doubleday 1988), p 208

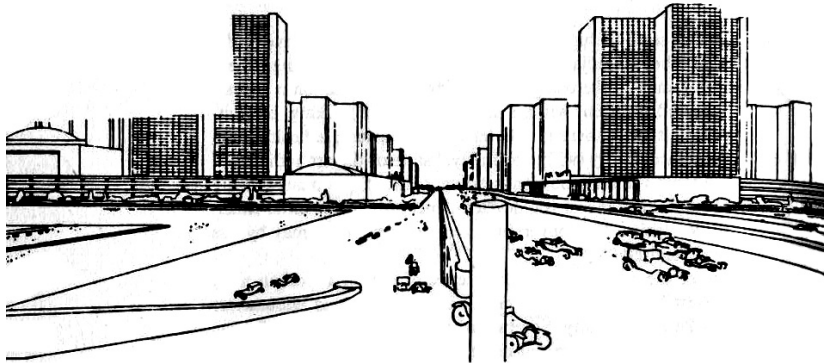
<sup>B63</sup> Whilliam H. Whyte: “*City – Rediscovering the Center*” (Doubleday 1988), p 311

***The street as an extended road notion***

Part B: Theory & Methodology (Chapters 3 & 4)

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Whyte compares the new megastructures with the proposal by Le Corbusier of the “Radiant City” of the 1930s presenting the same inhuman physical environment describe by Whyte as the epitome of poor urban planning.



**Figure 4.47:**  
*The proposal for a new urban setting by Le Corbusier (“Radiant City”)*



**Figure 4.48:**  
*A gloomy picture of the gloomy surroundings of Crystal City, Virginia.*



## 4.9 New Urbanism

*"New Urbanists want to leave the world a better place than they found it. That's why they insist on leaving their ivory towers and going out to engage the world."* <sup>B64</sup>

*- John Massengale* <sup>B65</sup>

According to Wikipedia <sup>B66</sup>, New urbanism is an urban design movement that became very popular at the beginning of the 1980s and early 1990s. The objective of the movement was to reform all aspects of real estate development and urban planning with the purpose to abolish the spread-out, car-orientated suburbs that have come to dominate the American and European landscape over the past 50 years. In fact, the New Urbanism movement claims to provide the concrete answer to the worries of William Whyte and Jane Jacobs among other opponents against the conventional suburban development (CSD) generally described as Suburbia or the "Urban Sprawl".



**Figure 4.49:**

*The New Urbanism village of Redmond Town Centre (top) contrasts with the typical strip commercial development of the suburbia (Fig 4.50)*

<sup>B64</sup> *From the Introductory Address by John Massengale at the First Council of the CNU (Congress for the New Urbanism) in Charleston, S.C. (2001)*

<sup>B65</sup> *John Massengale is a Board Member of the Institute of Classical Architecture & Classical America*

<sup>B66</sup> *the free web based encyclopedia*

## ***The street as an extended road notion***

Part B: Theory & Methodology (Chapters 3 & 4)

---



**Figure 4.50:**

*An example of the typical strip commercial development of the suburbia, the type of urban settings New Urbanism wants to banish.*

### **4.9.1 Theory**

New Urbanism represents a movement of architects, planners and developers based on principles, according to Robert Stauteville <sup>B67</sup> *"of planning and architecture that work together to create human-scale, walkable communities"*. According to Steuteville *"the New urbanists take a wide variety of approaches — some work exclusively on infill projects, others focus on transit-oriented development, still others are attempting to transform the suburbs, and many are working in all of these categories. The New Urbanism includes traditional architects and those with modernist sensibilities. All, however, believe in the power and ability of traditional neighborhoods to restore functional, sustainable communities"*. <sup>B68</sup>

The movement was initiated by Maverick Architects and planners <sup>B69</sup> in the 1970s. From a modest beginning, the trend is now beginning to have a substantial impact as Stautville points out. *"More than 600 new towns, villages, and neighborhoods are*

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<sup>B67</sup> Robert Steuteville is editor and publisher of the website New Urban News.

<sup>B68</sup> source: [www.NewUrbanism.org](http://www.NewUrbanism.org), from an article updated July 8, 2004.

<sup>B69</sup> I have not be able to obtain information about this group.



## ***The street as an extended road notion***

Part B: Theory & Methodology (Chapters 3 & 4)

---

*planned or under construction in the US, using principles of the New Urbanism. Additionally, hundreds of small-scale new urban infill projects are restoring the urban fabric of cities and towns by reestablishing walkable streets and blocks".<sup>B70</sup>*



**Figure 4.54:**  
*A New Urbanism ideal illustrating an urban setting in Capri, Italy*

### **4.9.2 Methodology**

The main aim of the New Urbanism movement is to return to the planning principles of the dense historical urban structure and the garden village ideal. This planning approach is based on the traditional multifunctional city planned according to demographic principles inviting city users and various professions, as for instance sociologists, traffic planners, architects, landscape architects and anthropologists, in the process. These planning principles are according to [www.NewUrbanism.org](http://www.NewUrbanism.org):

#### **1. Walkability**

- Most things within a 10-minute walk of home and work.
- Pedestrian friendly street design (buildings close to street; porches, windows & doors; tree-lined streets; on street parking; hidden parking lots; garages in rear lane; narrow, slow speed streets) .
- Pedestrian streets free of cars in special cases.

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<sup>B70</sup> source: [www.NewUrbanism.org](http://www.NewUrbanism.org), from an article updated July 8, 2004.

## ***The street as an extended road notion***

Part B: Theory & Methodology (Chapters 3 & 4)

---

### **2. Connectivity**

- Interconnected street grid network disperses traffic & eases walking.
- A hierarchy of narrow streets, boulevards, and alleys.
- High quality pedestrian network and public realm makes walking pleasurable.

### **3. Mixed-Use & Diversity**

- A mix of shops, offices, apartments, and homes on site. Mixed-use within neighborhoods, within blocks, and within buildings.
- Diversity of people - of ages, income levels, cultures, and races.

### **4. Mixed Housing**

- A range of types, sizes and prices in closer proximity.

### **5. Quality Architecture & Urban Design**

- Emphasis on beauty, aesthetics, human comfort, and creating a sense of place; Special placement of civic uses and sites within community. Human scale architecture & beautiful surroundings nourish the human spirit.

### **6. Traditional Neighbourhood Structure**

- Discernable centre and edge.
- Public space at centre.
- Importance of quality public realm; public open space designed as civic art.
- Contains a range of uses and densities within 10-minute walk.
- Transect planning: Highest densities at town centre; progressively less dense towards the edge. The transect is an analytical system that conceptualizes mutually reinforcing elements, creating a series of specific natural habitats and/or urban lifestyle settings. The Transect integrates environmental methodology for habitat assessment with zoning methodology for community design. The professional boundary between the natural and man-made disappears, enabling environmentalists to assess the design of the human habitat and the urbanists to support the viability of nature. This urban-to-rural transect hierarchy has appropriate building and street types for each area along the continuum.

***The street as an extended road notion***

Part B: Theory & Methodology (Chapters 3 & 4)

---

**7. Increased Density**

- More buildings, residences, shops, and services closer together for ease of walking, to enable a more efficient use of services and resources, and to create a more convenient, enjoyable place to live.
- New Urbanism design principles are applied at the full range of densities from small towns, to large cities.

**8. Smart Transportation**

- A network of high-quality trains connecting cities, towns, and neighbourhoods together.
- Pedestrian-friendly design that encourages a greater use of bicycles, rollerblades, scooters, and walking as daily transportation.

**9. Sustainability**

- Minimal environmental impact of development and its operations.
- Eco-friendly technologies, respect for ecology and value of natural systems.
- Energy efficiency.
- Less use of finite fuels.
- More local production.
- More walking, less driving.

**10. Quality of Life**

- Taken together these add up to a high quality of life well worth living, and create places that enrich, uplift, and inspire the human spirit.

### 4.9.3 Summary

One intention of New Urbanism is to reverse the inhuman conditions in the car dominated suburbia. This means benefits for residents, business, developers and for the local municipalities. According to the movement these benefits are as follows <sup>B71</sup>:

#### 1. **Benefits for residents**

*Higher quality of life; Better places to live, work, & play; Higher, more stable property values; Less traffic congestion & less driving; Healthier lifestyle with more walking, and less stress; Close proximity to main street retail & services; Close proximity to bike trails, parks, and nature; Pedestrian friendly communities offer more opportunities to get to know others in the neighbourhood and town, resulting in meaningful relationships with more people, and a friendlier town; More freedom and independence to children, elderly, and the poor in being able to get to jobs, recreation, and services without the need for a car or someone to drive them; Great savings to residents and school boards in reduced bussing costs from children being able to walk or bicycle to neighbourhood schools; More diversity and smaller, unique shops and services with local owners who are involved in community; Big savings by driving less, and owning less cars; Less ugly, congested sprawl to deal with daily; Better sense of place and community identity with more unique architecture; More open space to enjoy that will remain open space; More efficient use of tax money with less spent on spread out utilities and roads.*

#### 2. **Benefits to business.**

*Increased sales due to more foot traffic & people spending less on cars and gas; More profits due to spending less on advertising and large signs; Better lifestyle by living above shop in live-work units - saves the stressful & costly commute; Economies of scale in marketing due to close proximity and cooperation with other local businesses; Smaller spaces promote small local business incubation; Lower rents due to smaller spaces & smaller parking lots; Healthier lifestyle due to more walking and being near healthier restaurants; More community involvement from being part of community and knowing residents.*

<sup>B71</sup> [www.NewUrbanism.org](http://www.NewUrbanism.org)

## ***The street as an extended road notion***

Part B: Theory & Methodology (Chapters 3 & 4)

---

### **3. Benefits to developers.**

*More income potential from higher density mixed-use projects due to more leasable square footage, more sales per square foot, and higher property values and selling prices; Faster approvals in communities that have adopted smart growth principles resulting in cost / time savings; Cost savings in parking facilities in mixed-use properties due to sharing of spaces throughout the day and night, resulting in less duplication in providing parking; Less need for parking facilities due to mix of residences and commercial uses within walking distance of each other; Less impact on roads / traffic, which can result in lower impact fees; Lower cost of utilities due to compact nature of New Urbanist design; Greater acceptance by the public and less resistance from NIMBYS; Faster sell out due to greater acceptance by consumers from a wider product range resulting in wider market share.*

### **4. Benefits to municipalities.**

*Stable, appreciating tax base; Less spent per capita on infrastructure and utilities than typical suburban development due to compact, high-density nature of projects; Increased tax base due to more buildings packed into a tighter area; Less traffic congestion due to walkability of design; Less crime and less spent on policing due to the presence of more people day and night; Less resistance from community; Better overall community image and sense of place; Less incentive to sprawl when urban core area is desirable; Easy to install transit where it's not, and improve it where it is; Greater civic involvement of population leads to better governance.*

One of the most celebrated examples of a New Urbanism development is Poundbury in Dorchester, Dorset UK. The project, developed on the building site owned by The Prince of Wales, was designed by Leon Krier in 1989 after a commission by the Prince. The final Masterplan divided Poundbury into four distinctive quarters - the first phase of which started construction in October 1993. Poundbury does, according to Prince, “*demonstrate that it is possible to build high-quality, traditional housing at affordable prices, and provide new factories and offices on competitive terms within the context of radically different urban design*” <sup>B72</sup>.

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<sup>B72</sup> [www.princeofwales.gov.uk](http://www.princeofwales.gov.uk)

***The street as an extended road notion***

Part B: Theory & Methodology (Chapters 3 & 4)



**Figures 4.52 & 4.53 (left and right):**

*Poundbury is described as “a far cry from the hopes of those architects who sought to create urban communities in the years after the war through building blocks of flats such as these in Southwark in South London completed in 1959”.*

Despite good intentions and successful results, the realization of the ideal of New Urbanism has not proved to be a singular success story. The car, the planning element enabling the modern planning ideal to become real, is still present – also in new New Urbanism development. The widely praised Birkdale Village (North Carolina, USA) is an illustrating example (Figs 4.57 & 4.58). According to the [www.urbanplanet.org](http://www.urbanplanet.org) the development of Birkdal resulted in terrible traffic congestion and a destruction of the surrounding neighbourhood.



**Figure 4.54:**

*A successful part of Birkdale Village planned according to the principles of New Urbanism.*



***The street as an extended road notion***

Part B: Theory & Methodology (Chapters 3 & 4)

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**Figure 4.55:**

*The centre of Birkdale Village dominated by a car park not according to the Principles of New Urbanism.*

New Urbanism is in fact a counterattack against the social inadequacy of modernistic urban planning as modern urban planning once was a counterattack against the social inadequacy of the traditional dense historical city - the actual ideal of New Urbanism. As the functionalistic CIAM group (Fig 4.8), the New Urbanism movement has become an architectural faction with religious inclinations, although being a movement with an apparently well-considered professional foundation arresting a planning trend that is condemned by most contemporary architects and urban planners. However, there are undoubtedly obstacles politically, professionally and socio-ecologically to physically implement the principles of New Urbanism in a large scale. This relationship between modernism and New Urbanism and the future challenge of the movement is illustratively described by David Harvey <sup>B73</sup>: *“Where modernism had embraced the progressive utopia of a just and classless society, ennobled by a liberated work ethic, the new urbanism holds to a nostalgic but equally illusory conception of community defined in terms of “urban villages.” Where modernism had looked to the machine and to the processes of industrial production for solutions, the new urbanism attempts to*

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<sup>B73</sup> David Harvey (b 1935 in England), distinguished Professor of Anthropology at the City University of New York.

***The street as an extended road notion***

Part B: Theory & Methodology (Chapters 3 & 4)

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*ignore them and coopts market mechanisms to advance its precepts. Both movements articulate their urban proposals around the idea that an abstractly conceived, stylistically consistent, and well-ordered distribution of objects in space, by itself and with no regard to the dynamics of the underlying socioeconomic and political forces, can yield new forms of social organization and more humane physical settlements”*

B74 .

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<sup>B74</sup> Source: [www.arch.umd.edu/Faculty/GFrancescato/Papers/Edinburgh.html](http://www.arch.umd.edu/Faculty/GFrancescato/Papers/Edinburgh.html). From the article “City as Home and City as Network: Contrasting Paradigms in History” by Guido Francescato

***The street as an extended road notion***

Part B: Theory & Methodology (Chapters 3 & 4)

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## 4.10 The Street Enhancement Program

The Norwegian Street Enhancement Program is another answer to redesign the car dominated suburban village, in this case to improve the physical environment of national streets for the benefit of the local community. This program is probably the most well documented project in the history of The Norwegian Public Roads Administration. Thorough documentation was produced of the planning and realization of the five demonstration projects that were launched as part of the program. And in 2003, eight years after the completion of the program, the Directorate published an appraisal of the five projects and a selection of additional 11 among the many projects that succeeded the due of the program.

### 4.10.1 Theory

During the summer 1978 Sidsel Sandelien, at present the Region Officer at the East Region of The Norwegian Public Roads Administration visited Bø, a village in Telemark, Norway. Driving through the gloomy main street (Bøgata, Nasjonal Road no 36), it struck her how the car traffic completely dominated the physical environment and how the need of the pedestrians where totally subordinated the car (Fig 4.56). Furthermore the car traffic had transformed the traditional and historical street into a transportation artery ignoring the architectural characteristic of the village. Unfortunately, Bøgata was not a special case but a typical example of the planning strategy of the time.



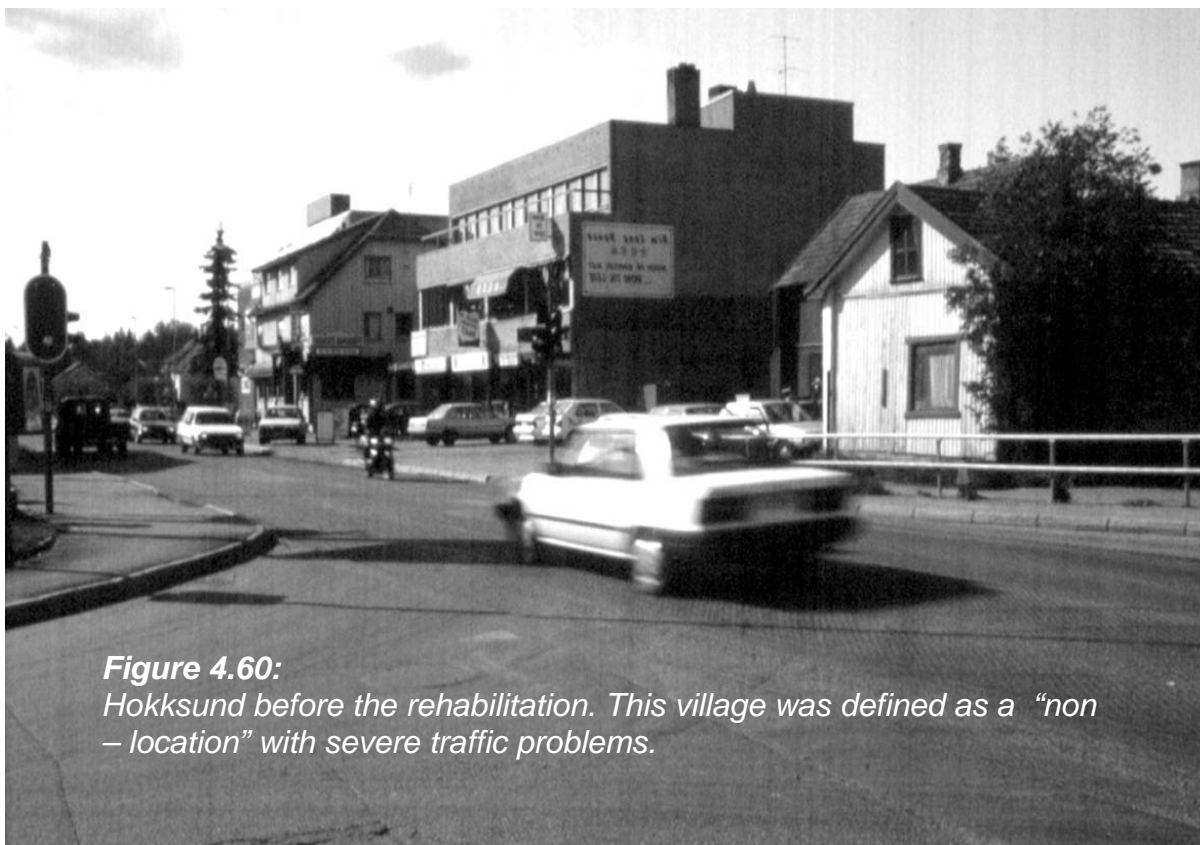
**Figure 4.56:**  
*Bøgata, the main street in Bø, Telemark, was very influenced by motorized traffic. The street has now being rehabilitated.*

***The street as an extended road notion***

Part B: Theory & Methodology (Chapters 3 & 4)

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In 1979 the planning guide “Strategy C” was published. The guide introduced a new approach how to design main car traffic routes through villages, rejecting the two prevailing strategies: by pass and car priority by giving precedence to pedestrians and to local environmental requirements, including architectural character. The new planning approach did not catch on locally in Norway, but attracted much attention in Denmark where several pilot project where realized during the 1980s. Consequently Denmark became a popular destination for study trips for Norwegian road planners who wanted to examine the practical implementation of their own planning strategy. However, despite positive experiences from Denmark, the Norwegian Public Roads Administration did not respond until 1990 when a major Street Enhancement program where launched by the Norwegian Directorate of Public Roads at the initiative of Sidsel Sandelien. This program invited five villages to participate in redesigning their main street from being an urban car traffic route into a traditional street with pedestrians and local requirements being set as major planning requirements rather than of the car. Stryn, Batnfjordsøra, Hokksund, Os and Rakkestad were invited.



**Figure 4.60:**  
*Hokksund before the rehabilitation. This village was defined as a “non – location” with severe traffic problems.*

**The street as an extended road notion**

Part B: Theory & Methodology (Chapters 3 & 4)



**Figure 4.61:**  
*Stryn in Sogn og Fjordane. From chaos to a pleasant environment.*

The following villages were assessed and presented in the report “From Highway to Street”- Experiences from Sixteen Enhancement Projects:

Locality	AADT in 2000	Speed limit afterwards	Converted length of highway
Kjøllefjord	1 600	50 km/t	550 m
Hommelvik	5 000	30 km/t	400 m
Batnfjordsøra	2 350	40 km/t	550 m
Stryn	3 700	40 km/t	830 m
Voss	8 000	50 km/t	200 m
Mandal	5 000	50 km/t	500 m
Valløveien	9 500	40/50 km/t	1 800 m
Horten	10 500	50 km/t	870 m
Nedre Langgate	20 500	50 km/t	1050 m
Hokksund			
-Vestre Brugt	11 500	40 km/t	2 144m
-Rådhusgt	4 500	40 km/t	(for all three)
-Stasjonsgt	3 000	40 km/t	
Flå	4 300	50 km/t	900 m
Raufoss	12 000	50 km/t	850 m
Os	2 400	50 km/t	630 m
Drøbak	4 500/7 500	50 km/t	700 m
Ask	7 200	50 km/t	1 100 m
Rakkestad	7 500	30/50 km/t	750 m

**Table 4.3:**  
*16 participating villages.*



## **4.10.2 Methodology**

The objective of the project were, as described in the report <sup>B74</sup>:

- a reduction in vehicular speeds
- better condition for cyclists and pedestrians
- tidying up the street and the aesthetic environment
- other objectives, such as local development

In achieving these objectives an extended planning methodology was introduced compared to traditional planning tools. This methodology was divided into three parts including a location appraisal, a functional registration and interviews, in order to provide information about:

- Traffic conditions for pedestrians, cyclists and drivers.
- Traffic safety.
- Architectural expression (not assessed in all localities).
- Local development - ripple effects (not assessed in all localities).
- Alternative solutions - street enhancement project and/or by-pass.
- Maintenance.
- Costs and benefits to the community.

With relevance to this thesis and the presented hypotheses the rehabilitation has improved the conditions for pedestrians, motorized traffic and architectural attractiveness in the following way (with text derived from the presentation report):

### **Pedestrians**

According to the project report the following result very obtained for pedestrians:

*“In all the projects pedestrians obtained better conditions because the pavements were widened and vehicular speeds were, with a few exceptions, reduced. Pedestrian crossings are generally better provided for than before. The counts indicated that almost all pedestrians opt to use the pavement or foot and cycle path, and a high*

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<sup>B74</sup> *Summary and recommendations of the report “From Highway to Street”- Experiences from Sixteen Street Enhancement Projects, 2004, p 7*

## ***The street as an extended road notion***

Part B: Theory & Methodology (Chapters 3 & 4)

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*percentage crossed the street at zebra crossings. Where the roadway is narrow and speeds low, a higher percentage did not cross at zebra crossings. Pedestrian traffic is well provided for in most localities, though with some suboptimal solutions, for example in Raufoss, where a section of the street lacks pavements. The interviews showed that a large majority of users think that being a pedestrian has improved after conversion”<sup>B75</sup>.*

## **Vehicular Traffic and Traffic Safety**

According to the project report the following results were obtained for motorized traffic: *“Most of the street enhancement projects assessed have narrow roadways, 6.2-6.5 m. Many have raised zebra crossings. There is ample parking, either on side streets and/or on the kerbside. Turnings at junctions are tight to prevent drivers from turning quickly off or onto the street and to reduce pedestrians' crossing distance. The ends of the enhanced street are often marked with roundabouts. Most of these streets have trees. For aesthetic reasons and to make the streets appear narrower, several rows of paving stones are employed as gutter zones in many of the streets. These measures have a speed-reducing impact if designed right.*

*The figure shows that speeds have gone down in most localities studied. The variation in speeds has also declined. In Ask, an increase in speed was recorded. This may be explained by the design. The interview studies showed that a majority of motorists believe that the passability for motor vehicles is still good. The reason for this may be that, even though motorists have to drive slower, there is ample parking and traffic is more orderly”<sup>B76</sup>.*

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<sup>B75</sup> *From Highway to Street”- Experiences from Sixteen Enhancement Projects”, 2003, pp 7*

<sup>B76</sup> *From Highway to Street”- Experiences from Sixteen Enhancement Projects”, 2003, pp 7*

## Architectural Expression

According to the project report the following results were obtained for architectural expression:

*“Street enhancement projects are designed to fit in with their surroundings. In this, most projects have succeeded, with designs reminiscent of traditional urban streets. The use of solid materials, tree plantings and good quality street furniture contribute to the favourable results. The interview surveys indicated that users react positively to the aesthetic conditions in their towns after the conversion to an enhanced street. Many of the projects include squares or small parks built at the same time as the street to better accommodate the town's social life. In Drøbak, for example, the open-air market is well designed and is centrally located. Several squares and markets have been constructed on the outskirts of the town centre. These appear to be little used”*

B77



**Figure 4.59:**  
*Batnfjordsøra in Møre og Romsdal with new vegetation and a sculpture by Arne Nøst.*

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<sup>B77</sup> From *Highway to Street* - Experiences from Sixteen Enhancement Projects”, 2003, pp 8

### 4.10.3 Summary

The Street Enhancement Program had a great impact when it was launched in 1990 and after its completion in 1995. “Miljøgate” (“Environmental Street”) became a well known conception among all transport planners, and still is. The object of the program was to increase the professional levels of skill in urban planning as an integrated part of general transport planning in urban areas. It also focused on introducing the manifold of the street, including built form, commercial offers and social life, as important planning premises. In addition to the five demonstration projects and a thorough documentation, several courses were arranged nationwide. However, the general interest and concern for environmental issues has faded compared to the 1990s, and the status of the “Miljøgate”-projects has never risen from being an extraordinary high-tide grant object. Consequently, the overall aim to make the



**Figure 4.60:**  
The former “Miljø-gate”- sign in Schweigaards gate in Oslo confirmed the presence of a new era in urban transport planning. It is now been removed.

conception “Miljøgate” redundant by replacing it with a general term “Street” has not yet been fulfilled, although the forthcoming official design guide has equalled the notions road and street as planning fields. Thus, the report “From Highway to Street”- Experiences from Sixteen Enhancement Projects” published in 2003, had two aims: firstly to give an account for how the “Miljøgate” projects actually had fulfilled its initial intentions, and secondly to refresh the conception of the program for newcomers and those that had expelled the new professional theories.

***The street as an extended road notion***

Part B: Theory & Methodology (Chapters 3 & 4)

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**Part C:**  
**LOCAL EMPIRICAL**  
**RESEARCH**  
**&**  
**REGISTRATION**



***The street as an extended road notion***

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)

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The part B, “Theory and Methodology”, gave an account of the various theories and methodologies that might prove relevant to support the determination of how social street activity is generated and how such activity might be implemented as a prime street planning premise.

However, the empirical research and methodology leading to the analysis and conclusion in part E of this thesis, is derived from the R&D program “**Urban life- the street as a social arena**” (henceforth described as the “UL program”). Thus, part C is giving an account for:

- a) Chapter 5: presenting the methodology used by the UL program.  
The UL program methodology presents empirical data to appraise:
  - a brief presentation of the study location (Section 5.2),
  - the various premises for social street activity (section 5.3),
  - how this activity factually is performed (section 5.4), and
  - how people appreciate such performance (section 5.5).
- b) Chapter 6: presenting a supplementary methodology more adequately designed to confirm or refute the two presented hypotheses:
  - ***A motorized traffic volume does not restrict social street activity.***
  - ***Architectural attractiveness contributes insignificantly to social street activity.***As the empirical data is not pragmatically evaluated in the UL program, this thesis introduces a supplementary methodology (described as SSAA method) to provide:
  - a clearer comprehension of the social street activity,
  - an evaluation of the relationship between the various relevant empirical data, and most important,
  - a practical assessment of the empirical data in order to challenge the above hypotheses.(Section 6.2).
- c) Chapter 7: presenting registration of data to be further analyzed.

# **Chapter 5**

## **SOCIAL STREET ACTIVITY**

### **(UL Program)**

#### **5.1 Preface**

The UL program “**Urban life- the street as a social arena**” was introduced in 1995 by the Norwegian Public Roads Administration (Statens vegvesen Vegdirektoratet), and presented in four reports comprising Oslo, Trondheim, Bergen and Hamar (1998). The program was initiated and lead by myself as a research program with the intent to emphasize and, in practice, introduce social relations as a premise for physical planning within the urban public space. Social relations have been a constituting premise for the change in the urban planning paradigm throughout history. Consequently, it is right to state that the need for social reforms through physical implementations have made an essential impact on the history of urban planning. Yet, social relations are hardly considered in the current planning of our city centers today. However, in the course of the study, the research methodology used in the UL- program has proved feasible to meet some of the requirements set by the Norwegian road and street design manual (1992) <sup>C1</sup>, namely to identify overall planning premises which previously have been practically neglected.

The research program, which was carried out in the period 1995-1998, is the largest of its kind ever to be done in Norway. When the Norwegian Public Roads Administration published the new road and street design manual in 1992, it represented, as previously described, a breakthrough in the sense that the traditional road concept was extended to include the urban street. What the manual actually did was to reintroduce the notion “street” which had been missing from the urban planning vocabulary for more than half a century. From being regarded as a transport

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<sup>C1</sup> *Håndbok 017 “Utforming av veger og gater”*

***The street as an extended road notion***Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)

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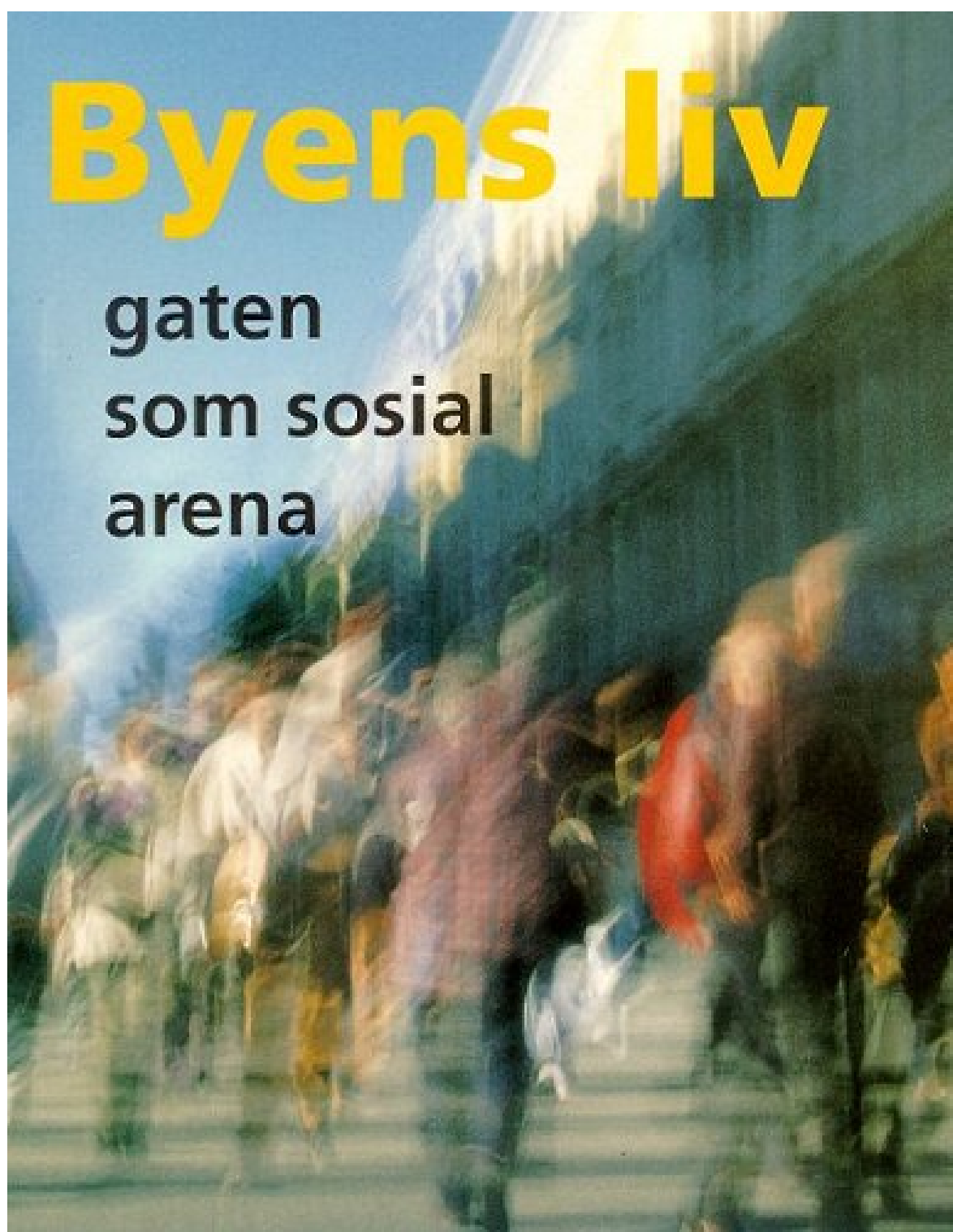
artery, the street now was professionally acknowledged as an element of urban design and a social arena, meaning that the physical form and the functional versatility of city use were included as premises for the design of streets. Thus, the urban planner faced large and above all extended professional demands. Since 1992 the Public Roads Administration has met this challenge for instance by introducing the design guide "Gaten som by- og stedsformer" in 2002 <sup>C2</sup>, which deals with traffic constructions in cities and dense built areas.

As part of the program, extensive studies were carried out in 27 streets and squares in the four above-mentioned Norwegian cities during the summer 1996 and the winter 1997. The studies comprised registration of a wide range of physical characteristics of the streets/ squares as well as initial background information such as demography and climate. All actual use of the selected streets was registered during several days at different times of the day. Approximately 2500 interviews about attitudes towards street use were carried out. Each of the four studies was linked to factual urban development projects within the centre of each city. These projects represented a wide range of planning problems from so-called "consequence appraisals" to detailed plans. The purpose of this was to test the research method in practical planning. Only Strandgaten in Bergen has been realized subsequent to the program. Consequently insignificant data how the research has supplemented the planning is hitherto available for use in this thesis. However, there is a hope that such data will be produced; furthermore, that a similar research will be carried out after the completion of the actual projects.

During 1997 the four local projects produced one report each. The reports were initiated, edited and co-written by myself, although local consultants were hired to write the main draft according to a given framework. The reports are a summing up and an interpretation of a selection of registrations but they are not analytic or conclusive. Just a limited part of the massive registration data (in SPSS format) that was assembled was used in the report. However, all data have been available for the use by this thesis. The data that are derived from the reports are specified.

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<sup>C2</sup> *Knut A Selberg: "Gaten som by – og stedsformer", Vegdirektoratet, 2002*



**Figure 5.1:**

*“Byens liv – gaten som sosial arena” (Urban life- the street as a social arena), showing the front cover of introductory pamphlet.*

***The street as an extended road notion***

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)

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As mentioned, the research method used in Part C of this thesis is derived from the UL program, and as used in this thesis, it is divided into three parts:

- The first part, “**Premises for Social Street Activity**”, includes a registration of the physical quantitative and qualitative characteristics of the specific street / square, with emphasis on quantitative conditions (section 5.3); derived from the UL program.
- The third part, “**Factual Street Use**”, includes a registration of the factual use of the street, comprising car traffic, public transport, cyclists and pedestrians (section 5.4); derived from the UL program.
- The fourth part, “**Characteristics of Social Street Activity**”, includes a registration of the attitude of city use through interviews (section 5.5); derived from the UL program.

The data are registered according to a logbook presented by the project administration (primarily myself). However, the various local projects have not followed the logbook 100%. Consequently, some data from one city might not correspond with the same data category in another. Registrations are for instance undertaken on different days and at different times. To fully compare the data from the four cities is therefore difficult.

## 5.2 Registration Locations

Several conditions have been decisive in the selection of the participating cities. Originally it was regarded as important that cities of various sizes took part in the research program, in order to obtain as varied results as possible. However, city size is a relative notion. Oslo, by far the largest city in Norway, is, by European standards, a minor city with its 500 000 inhabitants. Generally, it might seem that the level of street use is proportionate to the size of the city, although there is no statistic data to support such assumption. However, it has proved difficult to produce representative registrations of social street use at a national level in middle-sized cities (up to 50 000 inhabitants) with moderate social activity.

As the majority of Norwegian cities are included in such category, the three largest cities, Oslo, Trondheim and Bergen, were selected, despite the desire to differentiate city size. Oslo is of special interest because the major challenge the research program is addressing (city life and violence) has been subject to political debate for several years. In Trondheim and Bergen the local Road Office will gain from the registrations in other projects. Hamar, with 27 000 inhabitants, is the only town among the four with a size and a population similar to the average Norwegian town.





**The street as an extended road notion**

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)



**Figure 5.3:**  
*The city center of Bergen, comprising Nordnes and Vågsbunnen. Bryggen to the right.*



**Figure 8.3:**  
*The city center of Trondheim, comprising Nidelva and Midtbyen (the actual city center).*



**Figure 5.5:**  
*The city center of Hamar with the lake Mjøsa.*

## 5.2.1 Oslo

The capital Oslo is the largest city in Norway. Its population exceeds 500 000, while greater-Oslo, including its surrounding municipalities, has approximately 1 million inhabitants. The size of Oslo corresponds with an average middle size European city.



**Figure 5.6:**  
*Part of the city center of Oslo with the Oslo Plaza Hotel to the right and Postgirobygget (before rehabilitation) to the left.*



## ***The street as an extended road notion***

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)

### **Local Research Area**

The research area is located north of the lower part of Karl Johans gate (the main street of Oslo), and is delimited by Møllergaten, Torggaten and Storgaten between Stortorvet and Henrik Ibsens gate, including Stortorvet itself, Youngstorvet and Arbeidersamfunnets plass, three of the main squares in Oslo. The area also includes Jernbanetorget (Oslo S), by far the largest public transport junction in Norway with more than 100 000 users daily and an extensive number of changes between different means of public transport (train, tube, tram, bus and taxi).



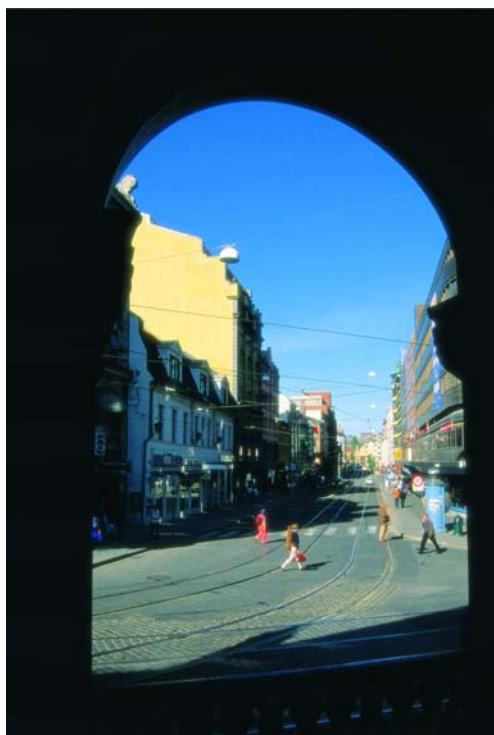
**Figure 5.7:**  
*The Oslo study-area,  
including Torggata, Storgata,  
Stortorvet and  
Youngstorvet.  
- Oslo report (modified)*

### ***The street as an extended road notion***

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)

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The selected area is relatively large, and to achieve the best possible results it was divided into twelve parts, nine are presented here:



**Figure 5.8:** *Storgata (trimmed)*



**Figure 5.9:** *Stortorvet*



**Figure 5.10:** *Youngstorget*

#### **Storgata; street:**

Storgaten used to be the main shopping street in Oslo city center of the 1960s, but has lost its pride by far partly due to the transfer of the commercial center of Oslo westward as a result of the development of Aker Brygge. However, the revival of the adjacent Grønland-area has attracted more visitors to Storgaten giving it a renewed position as shopping arena.

#### **Stortorvet square/ market place:**

Stortorvet is a traditional market place for vegetables, fruit and flowers, now surrounded by car traffic and trams restricting its accessibility for pedestrians. However, having Karl Johans gate and several shops, including two major shopping centers, as its immediate neighbors, it is frequently visited as a shopping arena.

#### **Youngstorget; car free square/ market place:**

A traditional market place for vegetables, fruits and flowers, now converted into a square for social gathering and shopping through a rehabilitation achievement some years back. Unfortunately the square is without the number of visitors as anticipated, but still with an important social significance.

### ***The street as an extended road notion***

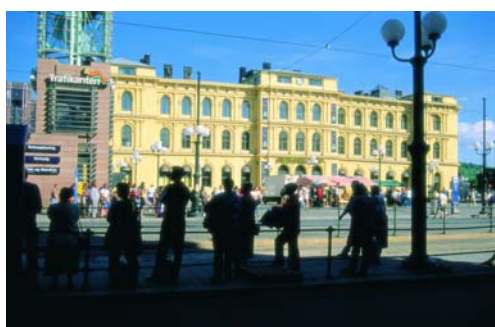
Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)



**Figure 5.11:** *Biskop Gunnerus gt*



**Figure 5.12:** *Domkirken (trimmed)*



**Figure 5.13:** *Jernbanetorget*



**Figure 5.14:** *Torggata*

#### **Biskop Gunnerus gate; street:**

This is a street with strong architectural potential never to be fulfilled. Its adjacent buildings have no functions at street level to generate urban life. Its primary function is to serve as a public transport route, dividing the street to such extent that social interaction crosswise seems futile.

#### **Domkirken; church with small park:**

The main church of Oslo (as Oslo has no cathedral) equipped with a picturesque and secluded back-yard, Domkirkeparken (*Fig C5, pp 281*), with several cafés inviting you for refreshments and a contemplative rest in a sunny environment, being ideal for social gatherings.

#### **Jernbanetorget; square:**

This is a traditional square with an important and unique architectural setting, marking the end / start of Karl Johans gate. This strategic urban position, and its function as an important welcoming first impression to Oslo for many visitors, should require a high level of both architectural and social quality. It has neither. Its only function is to provide waiting space for thousands of people that daily are queuing up for various means of public transport. However, a plan for rehabilitation is on the drawing board.

#### **Torggata; pedestrian street:**

Torggaten was converted into a pedestrian street in the early 1990s. Had a doubtful reputation after the opening with a serial of shop closures, but is now blooming. A cinema center and a bargain hardware store represent its main attractions and the generating elements for social activity.



### ***The street as an extended road notion***

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)

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**Figure 5.15:** Kirkeristen



**Figure 5.16:** Oslo City

#### **Kirkeristen;** shopping arcade:

Kirkeristen is a two storey building complex enclosing the church Domkirken. It is a picturesque and traditional urban asset, having survived several political clearance resolutions.

#### **Oslo City;** shopping center:

Oslo City is the largest shopping center in Oslo with 12 million visitors a year, 4 million being non-shoppers. Undoubtedly with a social asset but feared by anxious parents of teenagers.

As described, the various areas have very different basis for urban social life, varying from a market place like for instance Youngstorget and Stortorvet to indoor shopping centres such as Oslo City. These varied urban settings provide the project with a wide range of differentiated information.



## 5.2.2 Trondheim

Trondheim is the third-largest city in Norway with 144 000 inhabitants. Although greater Trondheim probably is the most spread-out city in the country, the city center is relatively dense. The city center constitutes the peninsula Midtbyen whose city-plan was designed immediately after the major city fire of 1681 by General Cicignon.



**Figure 5.17:**  
*Trondheim with Midtbyen, the city center.*

## Local Research Area

The research area of Trondheim constitutes three of its main streets: Olav Tryggvasons gate, Fjordgata and Elgeseter gate. They are multifunctional street with a relatively high level of traffic.



**Figure 5.18:**  
*The research-area of Trondheim  
comprising Elgesete rgate,  
Fjordgata and Olav Tryggvassons  
gate.*

### ***The street as an extended road notion***

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)



**Figure 5.19:**  
*Elgeseter gate*



**Figure 5.20:**  
*Olav Tryggvasons gate*

#### **Elgeseter gate; main street:**

Elgeseter gate is the main approach street towards Midtbyen (the city center of Trondheim) from the south. The study comprises a 740 m stretch situated south of Elgeseter bro (bridge crossing Nidelva which is dividing Midtbyen from the mainland). Being a main approach, the car traffic is relatively heavy, exceeding 30 000<sup>1</sup> a day, not compatible with its important residential function. Apart from a park in the immediate neighbourhood, the street has no features whatsoever to attract social life. A stroll along Elgeseter gate at this point evokes a high degree of discomfort, reflecting its sole purpose: to take you to Midtbyen as soon as possible.

#### **Olav Tryggvasons gate; shopping street, a 310 meter stretch:**

This is the main multifunctional shopping street in Midtbyen although with a relatively high level of heavy through-traffic (AADT 12 000). The main sign of its position as a leading shopping street is the presence of major chain stores, which have frequent pedestrian activity as key criteria for establishment. However its position is severely threatened by the growth of inner city shopping centers. The good relationship between the street floor and the high of the adjacent buildings, the urban life and the blooming trade attracts city users, although there are few facilities to invite them to rest.



### ***The street as an extended road notion***

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)

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**Figure 5.21:**  
*Fjordgata*



**Figure 5.22:**  
*Ravnkloa*

**Fjordgata;** shopping street, a 450 meter stretch:

Fjordgata has many of the same features as Olav Tryggvasons gate: the same level of traffic (AADT 13 000) and the same amount of shops. However, the chain stores are not attracted to Fjordgata, probably due to its location in the outskirts of the city core and possibly due to its indefinite street scape with an apparently unproportional relationship between street floor and adjacent building, making it less intimate than Olav Tryggvasons gate. Fjordgata is the specialists trade ground of Trondheim, primarily trading maritime goods but also pianos and guns. This type of trade does not catch the attention of the general city user, but is not that sensitive to movements by chain stores. Being located parallel to the channel, with traditional storehouses dividing the street and the channel, Fjordgata has tremendous potential both architecturally and socially. Unfortunately Trondheim does not seem to grab the great opportunity to transform Fjordgata from a back alley to a major tourist attraction. Ravnkloa, a small and popular fish market, situated at the junction of Mungkata, might represent a model for such development.

## 5.2.3 Bergen

Bergen is the second-largest city in Norway with 150 000 inhabitants. In the 12<sup>th</sup> century Bergen was the largest city in Scandinavia, being one of the four main trade centers of the Hansa state. This history has provided the city with an urban culture unlike any other city in Norway. Due to topographical conditions, being delimited by hills and the sea, Bergen is very densely developed, giving the city center its unique intimate atmosphere.

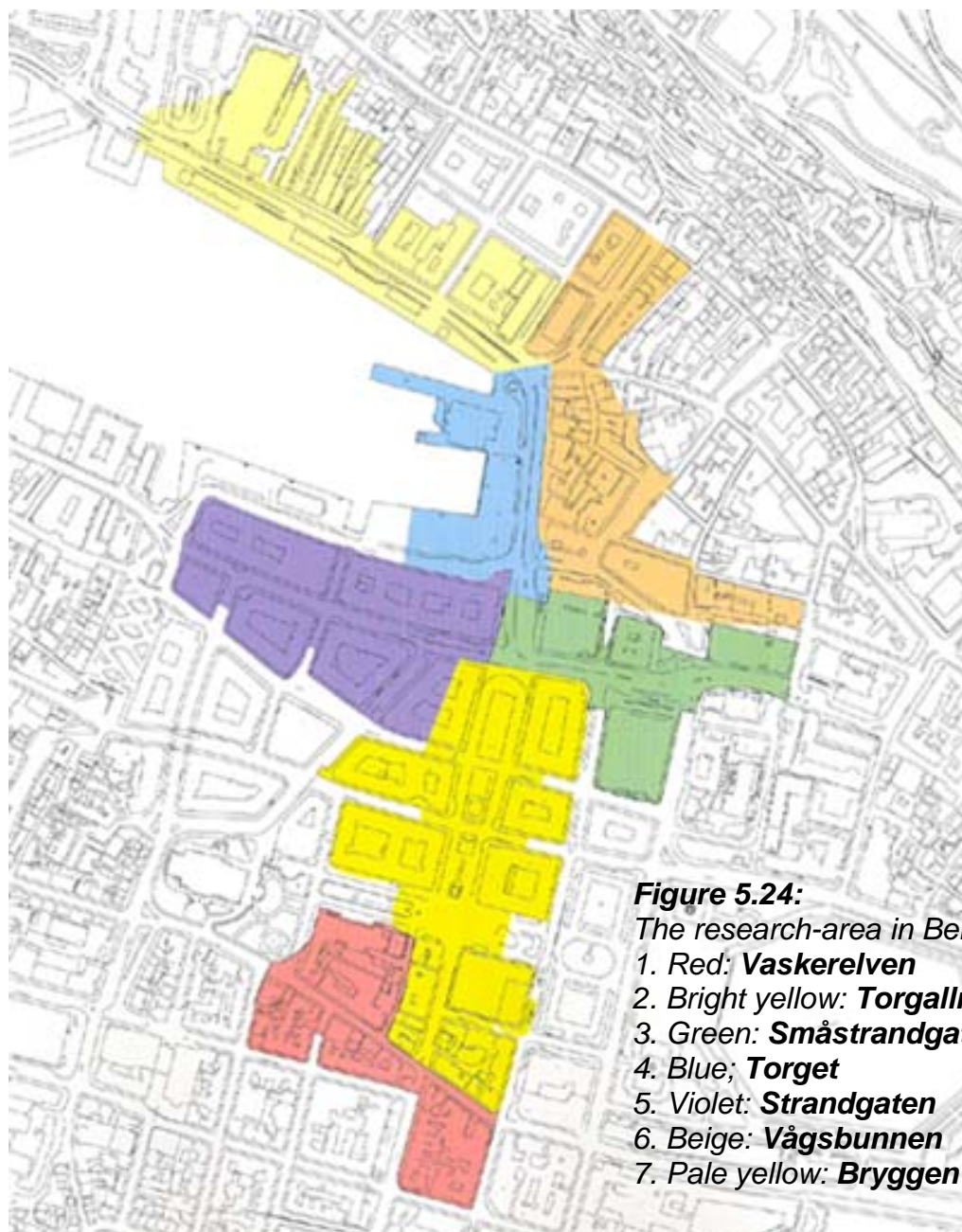


**Figure 5.23:**  
*The city center of Bergen*



## Local Research Area

The research area in Bergen is situated in the core of the city centre and includes the most popular tourist sites of the city. The area is continuous but is very different, providing varied information. The area is divided into seven parts:





### ***The street as an extended road notion***

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)



**Figure 8.24:** *Bryggen seen from Vågen*



**Figure 8.25:** *Vågsbunnen*



**Figure 8.26** *Torget*

#### **Bryggen; street/ waterfront:**

Bryggen is the main tourist magnet of Bergen, featured in the UNESCO heritage list. It is neither the street nor the waterfront that have given Bryggen its position as a sight of supreme status, but rather the traditional warehouses, now being converted into restaurants and souvenir shops. This is a possible social arena for tourists on sunny days, and those who find their way to the waterfront restaurants. However, without car traffic, the street has a tremendous potential as a social arena.

#### **Vågsbunnen; square/ street area:**

Vågsbunnen used to be the center of Bergen in the Middle Ages. The square, characterized by varied and vernacular architecture, has no particular social significance apart from occasional shoppers. The streets in Vågsbunnen are typical for the Middle Ages, being winding, intimate and ideal for strolling.

#### **Torget; square/ market place:**

The old harbor of Vågsbunnen, now a fish market and a major tourist sight, is also frequently visited by the locals. Torget is divided from Vågsbunnen by heavy traffic and king-size New Jersey-elements. It has great potential to become a unique social arena if cleared of car traffic.

## ***The street as an extended road notion***

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)

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**Figure 8.27:** *Torgallmenningen*



**Figure 8.28:** *Strandgaten*



**Figure 8.29:** *Småstrandgaten*



**Figure 8.30:** *Vaskerelven*

### **Torgallmenningen; square:**

Torgallmenningen is the definite heart of Bergen - the ultimate social arena. This is obvious location for major public events and happenings. The square, including the carefully planned six storey classicistic buildings, has recently undergone a successful rehabilitation causing a public uproar.

### **Strandgaten; shopping street:**

Strandgaten is a similar street to Småstrandgaten but with a larger scale (although relatively narrow and intimate) and with a higher potential to such degree that the chain stores have settled in. Homogeneous classicistic architecture gives this street a distinctive and inviting character.

### **Småstrandgaten; shopping street:**

Småstrandgaten is a multifunctional street with car traffic, mixed shops and varied architectural styles, but without appropriate facilities to make it flourish. However, its function as an important public transport junction brings people to the area.

### **Vaskerelven; shopping street:**

This is an area for through traffic both for cars and pedestrians. Poor general maintenance and insignificant offers leaves a gloomy impression and no reason to stop for a break here. This is a street in need of improvement.



## 5.2.4 Hamar

Hamar, situated 125 kilometers north of Oslo at the lake Mjøsa, is typical of the average sized Norwegian towns with approximately 27 000 inhabitants. It is the regional capital of Hedmark County. An additional argumentation for selecting Hamar, besides its size, was the awareness of the town council and the local Road Office towards issues like town life through the work of revitalizing the center.



**Figure 8.31:**

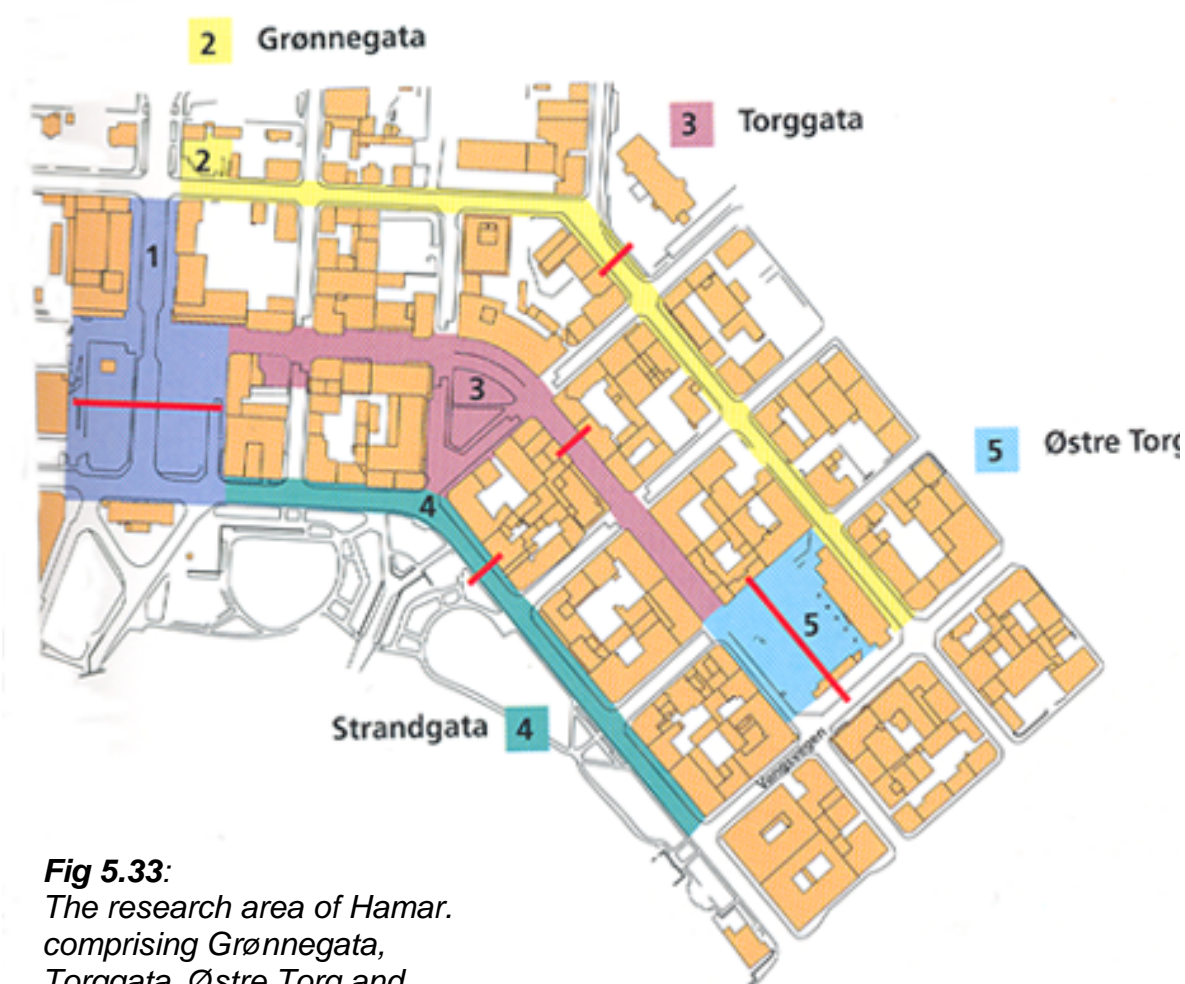
*The town center of Hamar with the lake Mjøsa, the largest in Norway.*

### *The street as an extended road notion*

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)

## Local Research Area

The primary study-area comprises three parallel main streets in the central core of Hamar: Strandgata, Torggata and Grønnegata. Two adjacent squares, Østre torg and Stortorvet, are incorporated in the research area, which basically constitutes the actual town center. As a secondary study, two shopping malls, CC Mart'n and MAXI has been included in the research program. The shopping malls are located respectively 1.0 km and 1.5 km from the centre, distances that in generally require car transport.



**Fig 5.33:**  
 The research area of Hamar, comprising Grønnegata, Torggata, Østre Torg and Strandgata. Stortorget indicated with blue and labeled 1.



### ***The street as an extended road notion***

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)



**Fig 5.34:** *Stortorvet*



**Fig 5.35:** *Østre Torg*



**Fig 5.36:** *Torggata*

#### **Stortorvet; square/ market place:**

Stortorvet has a manifold of functions both within the square (market place for vegetables, fruits and flowers) and in the adjacent buildings (library, cinema and restaurants). It is a traffic junction with excellent parking facilities and good accessibility. These elements should have given Stortorvet a position as an undisputable arena for social gathering. But this is not necessarily the case. Poor maintenance and an undefined and sprawling architectural form make it unsuitable as a social arena.

#### **Østre Torg; square:**

Østre Torg is located as part of Torggata. It is a defined and well-proportioned urban space adapted for urban life; but still, its visual impression expresses sterility and vastness. The few attractions available are generating limited urban life due to an inexpedient location.

#### **Torggata; pedestrian street:**

Torggata is a pedestrian street rehabilitated to a high aesthetical level to the delight of the local politicians and the public. This is a natural destination for a Saturday stroll. Torggata has excellent conditions for urban activity, with a great variation of shops (all the chain stores are present), restaurants and in- and outdoor cafés. The new design takes account for neat detailing and the provision for social gatherings. What is a matter of confusion, however, is the apparent neglect of Triangelparken, a small park marking the bend in the street, representing a lost opportunity to create a magnificent urban space. Torggata is very accessible

### ***The street as an extended road notion***

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)

---



**Fig 5.37:** *Strandgata*



**Fig 5.38:** *Grønnegata*

#### **Strandgata;** main street

The main assets of Strandgata are the shops and the greenery. Heavy traffic (AADT 10 000), narrow pavements and hardly any attractions in the evenings restrict its social use. Strandgata is primarily a public transport route. Its location adjacent to a south-facing green belt/ park indicates potentials for a future expansion of the pedestrian area. There is good accessibility for cars.

#### **Grønnegaten;** street

to classify Grønnegata into any street category. This is a back alley, dull, derelict and without any apparent attractions. It offers various public offices and a handful of insignificant shops. The street is only occupied by misplaced pedestrians and people rushing through on pavements that appear too narrow. However, the lack of visitors provides good parking facilities.



## 5.3 Physical Premises for Social Street Activity

By anticipating the conclusion of the UL-Research Program, the social street activity within the urban space is dependent upon various conditions. The complete range of factors has been registered in all four cities. This part of the research method might be characterized as a so-called “local appraisal”. The aim of the registrations is to evaluate the physical quality of the quantitative and qualitative characteristics of the street in order to establish what main conditions in the physical environment affect social street activity:

- A. General conditions** at a regional, local and detailed level.
- B. Street character** at a local and detailed level.
- C. Offers** at a local and detailed level.
- D. Accessibility** at a local and detailed level.

### 5.3.1 General conditions

In the project, general conditions are defined as conditions that influence the research-area, and the street/ square in particular, at a general/ overall level. Included in the general conditions are: land use, demography, climatic conditions, environmental strains, traffic accidents and crime.

#### Land Use

The research areas in the four projects are situated in densely built urban areas, in the core of each city centre. Consequently, the land use of the cities has a common characteristic as densely built urban areas. The approach to appraise the land use in the various projects is, however, different. This is due to the fact that the research areas vary in extent and type of urban space. As the research area of Trondheim consists of three separate streets including adjacent building blocks only, the research area of Oslo comprise one continuous area, including 4 squares and 13 streets, with the approximate size of half of Midtbyen, the whole city centre of Trondheim. The land use is defined by the characteristic of the built area:

***The street as an extended road notion***

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)

Land Use	Trondheim	Bergen	Hamar	Oslo
Buildings	x	x	x	
Street floor	x	x	x	
Park/ greenery	x	x	x	
Square		x	x	
Public and private courtyards		x	x	
Sea, waterfront	x	x		
Pavements	x			

**Table 5.1:**

*Summary of registrations of land use. Oslo has no specific land use description, although it is thoroughly asserted for.*

Generally such land use categories include data describing the actual activity within the built form (buildings), such as dwelling, offices, shops, private and public services and so forth. The amount of dwellings in the various research areas is infinitesimal, probably restricted to occasional flats, although for instance Elgeseter gate (Trondheim) has residential building blocks within the street. The selected areas are foremost characterized by shops and other types of commodity trade. In Hamar offices and shops constitute 74% of the total built area.

Most so-called “local appraisals” include a review of the historical development of the urban structure of the city. Such review supplies the planner with valuable information about fundamental traits of the urban planning evolution that might influence further development. It might for instance reveal particular historical events or major physical transformations (described professionally as “constituting elements”), for instance great fires and establishment of railways or main roads that have completely altered the urban development of the city. The Oslo- and Hamar reports contribute with such information, describing the history of the cities from their foundation to the present day during a time span of 1000 and 150 years respectively.

## Demography

The demographical appraisal aims to establish the following data:

1. Number of inhabitants (both city in general, and research area)
2. Age distribution (both city in general, and research area)
3. Household distribution (both city in general, and research area)
4. Native background (both city in general, and research area)

### Number of inhabitants

Number of inhabitants describes the number of people with permanent residence in the city as a whole, in the research area and in its immediate surroundings. The extent of urban outdoor activity in one particular area is greatly affected by whether the area is residential or not. There is limited tradition among Norwegians to live in the core of the city centre, although this is gradually changing. For instance only 0.2% of the population of the municipality of Oslo have permanent residence in the city centre; the number for Bergen is 8%, for Trondheim (Midtbyen) 1.7% and for Hamar 1.2%. The two extremes might be explained by the previously described urban culture in Bergen that presumably can affect the residential pattern; and for the case of Oslo, a high level of commodity trade and commerce establishment. However, the latter trend is in reverse. Many significant commercial institutions tend to re-establish themselves outside the city centre leaving behind areas for residential use (the re-establishment of Rikshospitalet <sup>C3</sup> and Telenor <sup>C4</sup> have released areas enough to house approximately 1500 people in the core of the city, increasing the population of Oslo city centre by 150%).

### Age distribution

The age distribution Figures of the inhabitants living in the study areas have been obtained from the local authorities. Consequently the age categories differ. For instance, Bergen has six categories: 0-5 years, 6-19 years, 20-29 years, 30-66 years, 67-79 years and > 80 years, and Oslo four: 0-15 years, 15-25 years, 25-65 years and > 65 years. A typical trend for all cities is that the majority of people in the age-group

<sup>C3</sup> *Rikshospitalet being the national hospital of Norway*

<sup>C4</sup> *Telenor being the national telephone- and communication company*

### ***The street as an extended road notion***

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)

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20-29 and over 80, live in the city centre. In Hamar there are three times as many people in their 20s living in the city centre compared to the municipality as a whole. This overrepresentation of young people is regarded as an asset to the city life preventing the city centre to become derelict after office hours.

#### **Household distribution**

The trend that family households (two or more persons) prefer to settle down in the outskirts of the city or in the suburbia, makes the household distribution of the city centre of particular interest to explain its distinctive demography. In Oslo as a whole 53% of the dwellings are occupied by single people; in the city centre the percentage is significantly higher. This has been a general trend over several decades, and although the city centre has become increasingly attractive to families during the 1990s, the city centre is foremost the location for the life of single youth and adults marking their distinctive stamp on urban life.

#### **Native Background**

The native background of the inhabitants, that is included as a parameter to describe the characteristics of local demography, has primarily reference to Oslo. The nation-wide average of immigrants in Norway is 5% (immigrants are defined as a person born abroad or having both parents born abroad). Trondheim, Bergen and Hamar follow the nation-wide average while 45% of the total number of immigrants in the country lives in greater Oslo (together with the county of Akershus), including more than 60 000 persons in the city of Oslo originating from outside the western world. 30% of these are living in the eastern part of the inner city, neighbouring the eastern part of the study area, and making a significant impact on urban life with an urban tradition and a city use unlike the native Norwegians. Consequently, while immigrants with foreign cultural background, have an insignificant effect on urban life in Trondheim and Bergen (and most probably in Hamar although this is not accounted for), the characteristics of urban life in the study area of Oslo are presumably affected both positively and negatively; positively in the sense that foreign immigrants provide the area with multicultural elements which is comprehended as colorful and exotic by most, and negatively in the sense that frustration and social mistrust among second and third generation immigrants create violence and insecurity.

### ***The street as an extended road notion***

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)

## **Climatic conditions**

The level of outdoor activities, urban or not, is presumed to be greatly dependent upon climatic condition including rain- and snowfall, temperature, wind, geographical and topographical location and the situation of local buildings (facing the sun, protecting against wind and so forth). Norway has a Nordic climate with great variations in weather conditions over the year and in different parts of the country. The study has obtained data from “Det norske meteorologiske institutt”<sup>C5</sup>, signifying local variations both in normal temperature (mean temperature) and in temperature during registration:

City	Average 24 h summer normal temp/ degree C	Average 24 h winter normal temp/ degree C	Average 24 h summer registration temp/ degree C	Average 24 h winter registration temp/ degree C
Oslo	13.5	- 4.5	15.8	3.0
Trondheim	13.5	- 3.0	20.0	- 2.5
Bergen	14.5	- 1.6	19.0	- 3.0
Hamar	15.5	- 8.0		

**Table 5.2:**  
*Average temperature in the study areas*

The above Figure indicates that the research was carried out under good weather conditions (especially for Oslo), which, as previously described, represents a generating factor for urban activity. This also applies generally for wind and rainfall in the summer period, while the weather conditions in the winter research in Bergen were poor with heavy rainfall and strong winds. The dry summer condition in Bergen is untypical as the city has a wet climate with 2250 mm rainfall on an annual basis, compared to Trondheim with 850 mm.

<sup>C5</sup> “Det norske meteorologiske institutt”: *The national/ local weather office*

## **Environmental strains**

Environmental strains caused by traffic are presumed to affect urban activities in streets although this is a relative assumption (the Champs Elysées has a traffic intensity of approximately 150 000 a day but is still the major tourist magnet of Paris). There are some pedestrian streets and car-free squares included in the research, but they are deliberately underrepresented. Generally the selected streets and squares have a relatively high level of traffic with accompanying environmental strains such as noise, air pollution and traffic barriers:

### **Noise**

The Ministry of Environment has set up guidelines for outdoor traffic noise in connection with dwellings with a maximum recommended level of 55-60 dBA. For urban parks the recommended level is set to 50-55 dBA. Measures obtained by the local Road Offices shows that the noise in streets with car traffic, almost without exception, exceeds this recommendation. In fact, in Trondheim and Oslo the actual noise (responded by the ear) due to traffic is roughly twice as high, or 8-10 dBA, than the recommended level of 50-55 dBA. As a consequence, the outdoor activity is limited in the streets with the highest traffic intensity, as normal conversation is being strained and noise is becoming a dominating environmental element.

### **Air pollution**

As for noise, the Ministry of Environment has provided recommended levels for air pollution ( $100 \mu/m^3$  for NONOX and  $35 \mu/m^3$  for PM10). In addition they have introduced maximum levels that must not be exceeded by law ( $300 \mu/m^3$  for NONOX and  $300 \mu/m^3$  for PM10). There is an evident tendency that the level of air pollution indicated by measurements exceeds the recommended level but is within the lawful limit. Floating dust, caused by widespread sprinkling of limestone and extensive tarmac wear by studded tyres, seems to be a more prominent cause of air pollution than exhaust fumes.



***The street as an extended road notion***Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)

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**Traffic barriers**

Traffic barriers are hardly measured, but describe the level of barriers that car traffic represents for crossing a street or preventing people from reasonable accessibility within the urban space. Consequently this is a subjective assessment, indicating that most of the selected streets with car traffic actually represent a barrier towards movement of people crossing the street. This is a general fact that is well documented for instance in the book "Livable Streets" (1967) by Donald Appleyard; but nevertheless gives the planner good indication of frequently used crossing points in need of traffic light regulation or other types of measures.

**Crime and violence**

Theft (both simple and serious) is the major category of crime committed in the centres of all participating cities, although violence and robbery is over-represented in the inner city compared to the city as a whole. There are the two latter categories that represent the chief elements of insecurity among city users; especially unprovoked street violence has been focused upon as a major problem of the inner city. However, police reports indicate that violence violations primarily occur in private homes, secondary in bars and restaurants and rarely in the street itself. This fact explains the high number of violence violations and robberies reported in the city centre of Bergen, 750 annually (the city centre of Oslo has 500 such annual reports in comparison). This is said to be a consequence of the considerable proportion of dwellings located in the inner city of Bergen. Violence and robbery are closely linked to misuse of alcohol and drugs. The police in Oslo have recently accomplished a successful campaign against violence and street disturbance. As a consequence the unprovoked street violence has decreased. However different types of violence and theft are being introduced. Gang figurehts contribute strongly to a high level of insecurity among city users, and tightened security measures in major chain shops, banks and post offices has increased the number of thefts against small shops and the general public. However, as for the research area in Oslo, the risk of being involved in a traffic accident is much greater than being exposed to robbery and violence in the street. This also applies for Trondheim, Bergen and Hamar.

## **Traffic accidents**

No registrations of traffic accidents have been carried out as part of the research program. However, data on traffic accidents registered by police and hospitals during the period between 1990 and 1995, give a good indication of the factual traffic situation in the study areas with regard to traffic safety, although statistically there are a relatively high proportion of unregistered accidents occurring. Traffic accidents are said to be a product of the intensity and the complexity of the traffic pattern. This assertion is also equivalent to the actual registered accidents, which almost without exceptions have occurred in complex street junctions.

Traffic accidents are also described as the objective measure of traffic safety. However, the experience of people towards traffic safety can differ from the actual risk. Occasionally the traffic situation might be regarded as so complex and frightening that both car drivers and pedestrians are especially attentive while walking or driving, the latter category being forced to reduce speed. This fact might explain why the implementation of safety measures in streets, for instance functional segregated street systems (different types of traffic in separate lines), do not always have the intended effect in reducing traffic accidents. Likewise, it might also explain why streets with an apparently chaotic traffic pattern have less traffic accidents than might be expected.

### **5.3.2 Street character**

There is a general assumption among architects (and urban planners in general) that the quality and characteristics of the urban built environment has a strong influence upon urban street life. Independent of whether this supposition proves right, the existing street character is an important premise for urban design. The study therefore includes a relatively thorough registration of this subject in the research program. The registration is necessarily subjective, carried out by the three local project organizers (three landscape architects and one civil engineer), comprising a study of built form, the street space and street furniture and vegetation. The registrations are in fact based on traditional "local appraisals" that are commonly being accomplished during the last decade in some urban design projects.

#### **The built form**

The built form of the city is theoretically accounted for in previous chapters. The built form describes the character of buildings, and how the buildings are situated within the urban environment, either as individual monumental elements (such as churches, castles, town halls etc), or connected as building blocks into streets, squares or incoherent structures. Character includes architectural styles, age, height and materials and maintenance.

#### **Urban structure**

The urban structure of the various research areas is, as previously described, diverse, with three distinctive streets in Trondheim and sections of specific city boroughs in Oslo, Bergen and Hamar. As the study areas of Oslo and Bergen are structurally inhomogeneous and versatile, the study area of Hamar constitutes of two structural sections, with a uniform grid pattern of equally sized building blocks, being divided by a 45 degree split (Figure 28). The study areas of Oslo and Bergen give the impression of not being part of any strong overall plan, but rather being developed incoherently over time. This is especially evident for the study area in Bergen, having incorporated urban structures typical for both Medieval and Classicistic urban planning traditions. The study area of Oslo comprises three main urban developments: firstly the 1624 Kristiania-plan including Karl Johans gate, secondly

### ***The street as an extended road notion***

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)

---

the expansion plan of 1875 including Torggata, Møllergata and Storgata, having Kristiania and the original Storgata (a main approach into the city centre in medieval times) as its constituting elements, and finally the surrounding area of Oslo S developed during the period of 1960-1990.

Most urban structures are predisposed to internal development and variations in both architectural style and building age. One specific building block within an urban structure might be structurally preserved even if a part of it, or in fact the whole block, was to be renewed. The delimited city center of Trondheim, Midtbyen, is an excellent example. Midtbyen was planned in 1681 by Cicignon, and its urban structure has remained unchanged in spite of more than 300 years of redevelopment and altered functional requirements including the introduction of the car. The same apply for Kristiania in Oslo, originally planned in 1624.

#### **Architectural style and building age**

As mentioned, most urban structures are predisposed to internal development and variations in both architectural style and building age. The various study areas are no exceptions. This fact, in addition to diversity in urban structures as described above (both in pattern and architectural origin), indicates great variations in both style and age of buildings. Most extreme is Bergen. The study area includes for instance Vågsbunnen with a medieval urban structure with new infill buildings carefully harmonizing architecturally with the original building of the medieval period. Furthermore Torgalmenningen, a strong and formal urban space encircled with typical classicistic buildings with one exception, the Functionalistic “Sundt”- building, the most famous and distinctive building in the area, blending beautifully into the formal and classicistic architectural whole.

The Oslo report gives a descriptive illustration of the variation in building age in the study area, differentiating in four periods: before 1820, 1820-1900, 1900-1950 and after 1950. There are, as illustrated, very few buildings dated earlier than 1820, the “Domkirken” from 1697 (later rehabilitated and rebuildt) as the most prominent. The study area is characterized by a large degree of infill buildings. For instance most buildings from the period 1900-1950 located within the expansion plan of 1875 are of

### ***The street as an extended road notion***

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)

infill category, as this area most certainly was fully developed prior to 1900. As previously described, the study areas in Hamar and Trondheim represent the most homogeneous urban structures. However in both places the age and architectural style of the buildings vary, mostly due to incoherent infill development.



**Figure 5.39:**

*Torgalmenningen i Bergen, a formal urban space in classicistic style with the “Sundt”- building as an architectural break.*

### **Height of buildings**

In most cases the height of buildings corresponds with the age. Generally the various homogeneous urban structures include buildings of the similar regulated height. Exceptions are monumental buildings, separately located or as part of a defined urban building block. Generally the height of buildings in urban areas, such as the study area, is 3-5 stories. However, in certain areas, such as for instance Torgalmenningen i Bergen, the height is 5-6 stories giving an urban impression typical for most European cities.

Oslo is by far the most varied study area when it comes to building heights. Traditionally the general building height in Oslo follows the general trend of 3-5 stories giving it a non-urban impression. However, within the study area there are higher buildings than the average due to its central position and the cost of land.

***The street as an extended road notion***

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)

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Consequently, it is here, and within its immediate surroundings, you find the tallest buildings in the country:

- firstly, the Radisson SAS Plaza Hotel (34 floors),
- secondly, the Royal Christiania Hotel (12 floors),
- thirdly Postbygget (25 floors and now being totally rehabilitated), and
- fourthly the shopping centre Oslo City (12 floors).



**Fig 5.40:**  
*Postbygget and Plaza Hotell aret he two tallest buildings in Scandinavia.*

These buildings represent four decades of high-rise building models in Oslo, an attempt to realize the dream of the functionalists to transform Oslo from a small mediocre city on the outskirts of Europe to a modern high-rise city of distinction. Although this dream has provided Oslo with an insignificant area that might be



***The street as an extended road notion***Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)

---

qualified as high-rise, the area between the handful buildings exceeding 10 floors has not received much planning attention, representing waste and derelict traffic areas without any mentionable elements that might implement social contact among street users.

**Materials and maintenance**

Generally building materials correspond with building tradition, building character and building age. Fire regulations over the centuries have introduced injunctions towards brick and concrete as the prevailing buildings materials in densely built-up areas such as city centres. Consequently, such materials were used in most buildings from the 19<sup>th</sup> Century. However, some timber houses exist in the study area of Hamar and Bergen, although most timber buildings in Bergen were rendered during the period 1905-1920. Recent erected buildings have often glass and steel as outer cladding. Generally, the most typical material for use in facades is rendered brick or concrete. This also applies to Oslo, although the most characteristic buildings in the study area, “Domkirken” and “Kirkeristen” are built in unrendered brick giving this specific spot a particular atmosphere. Typical buildings from the last century in Oslo are built in concrete or steel.

The level of maintenance varies a lot from city to city, and among specific streets, although some will state that the general maintenance of the public space in Norwegian cities is relatively poor. However, it is typical that urban spaces of aesthetical and cultural significance, such as Bryggen in Bergen, are well maintained. Maintenance is a measure of care, pride and urban awareness. The people of Bergen have, unlike most urban citizens in the country, such pride and awareness, having a defined strategy of keeping their most essential public spaces well maintained. An extensive rehabilitation program was launched in the early 1990<sup>s</sup>. The result has been the renewal of a selection of streets and urban spaces to a high aesthetical level. The latest achievement has been “Torgalmenning”, an indubitable success although the proposals caused a public uproar when first presented.

## **The street room**

The dimension of “the street room” describes the three-dimensional visual, or spatial, impression of streets and squares. This dimension (hence force described as the SR-factor) equals the relationship between the width of the street floor and the average height of the vertical elements of the street, usually the cornice height of buildings, but might also refer to vegetation (mostly trees). The Oslo report describes streets with a SR-factor  $<0.5$  as narrow, and streets with a SR-factor  $>2$  as spacious. The Bergen-report, however, describes Vågsbunnen, Vaskerelven and Strandgaten, all with a SR-factor  $=3$  as narrow representing an architectural unity, while Bryggen and Torgalmenningen, having a SR-factor  $=3-6$  as spacious and not being an architectural unity. This inconsistency in opinions indicates that what is regarded as a narrow and a spacious street is a matter of subjective assumption. However, there is no true answer. Many different ratios have been introduced to describe the ideal street or square. The Norwegian design guide “Veger og gater” (not yet published) defines the ideal SR-factor for main streets between 2.5 - 4, for common streets between 1 - 2.5 and for alleys and lanes between 0.25 - 1. Consequently the “right” SR-factor must be defined according to functional use and architectural significance. For instance, in the Bergen-report, Torgalmenningen is categorized as a wide street without architectural unity. This author tends to describe it as a typical square and probably as the most magnificent architectural urban space in the country.

This architectural characteristic of the street, its three-dimensional architectural peculiarity, is what distinguishes the street from the road. Thus, such observation is of vital importance to understand the street as a three-dimensional architectural element, in fact the basic knowledge to identify the true category of the transport artery – being street or road. This three-dimensional relationship between the street floor and the adjacent vertical elements as described, has been fully recognized as the most important planning criteria of the design of streets throughout planning history, the Paris-plan by Haussmann and the 1929 Oslo-plan by Hals are prime examples.

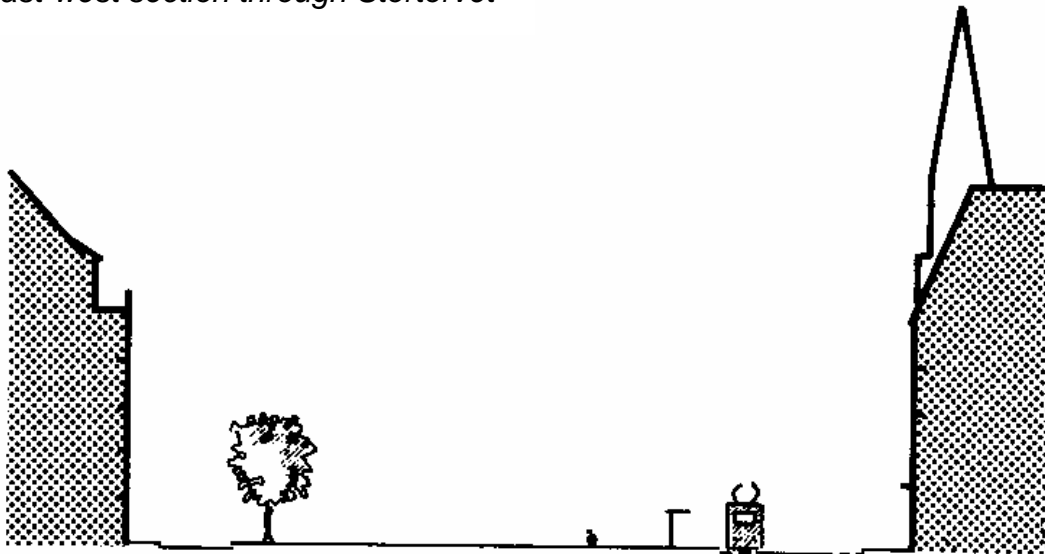
***The street as an extended road notion***

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)

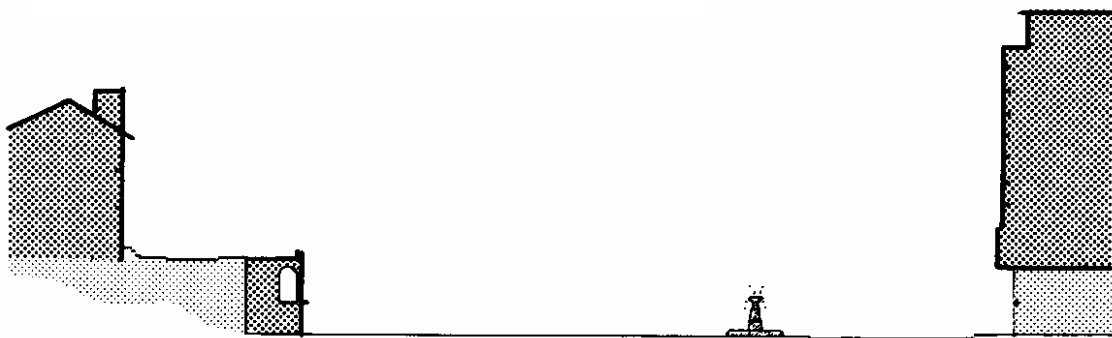
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*East-west section through Stortorvet*



*North-south section through Stortorvet*



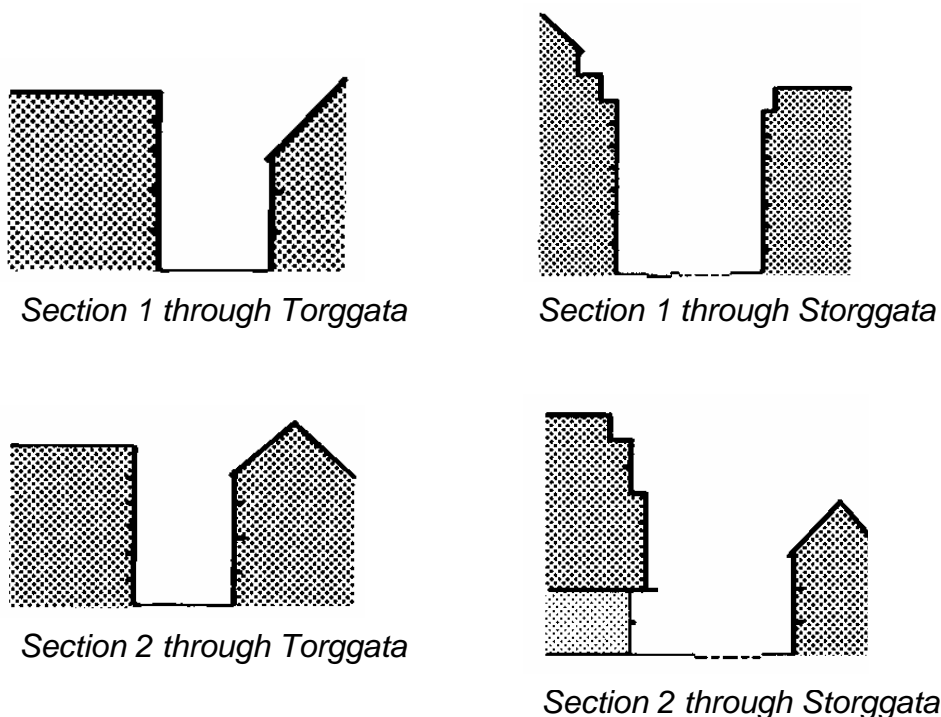
*East-west section through Youngstorget*

**Figure 5.41 - 5.43:**

*Three sections in the study area of Oslo, indicating great variations in the relationship between the street floor and the height of buildings/ other vertical elements.*

***The street as an extended road notion***

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)



**Figure 5.44 - 5.47:**

*Sections through Torggata and Storggata, illustrating the SR-factor, being the relationship between the width of the street floor and the average height of the vertical elements of the street, usually the cornice height of buildings*

The Oslo report presents an outstanding illustration of the all the street sections in the Oslo study area (Figs 5.41 – 5.47), exemplifying the great variations in the ratio between the width and the height of the streets (here described as the SR-factor). In the Oslo study-area there are also great variations in the height of the buildings within the same street, and furthermore the different building blocks vary both in size and area. This contributes to a general disharmonious visual impression of most streets, a characteristic that are so typical for all cities.

## **Street furniture and vegetation**

Street furniture and vegetation are essential and underrated architectural elements within the urban public space; essential because such elements constitute such great visual impact on the aesthetical environment of streets and squares, and underrated because the selection of such elements, especially street furniture, in most cases is casual and often undertaken by non-professionals who do not appreciate or their aesthetical importance.

### **Street furniture**

Street furniture constitutes a wide specter of elements, including all types of traffic equipment such as traffic signs and traffic lights, and commercial signs such as advertising, lightning etc. Streets with car traffic are generally dominated by traffic equipment, while other types of furniture such as benches and monuments dominate squares and pedestrian streets. However, the squares and streets in the study areas are generally soberly furnished. There are relatively few benches around, although many types of other physical elements are suitable for seating, the “Blue Stone” in Bergen being an outstanding example. The “Blue Stone” represents artistic elements that are generally relatively scarce in the study areas. However some squares, such as Stortorvet and Youngstorget in Oslo, have fountains and monuments as main features.

***The street as an extended road notion***

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)

---



**Figure 5.48:**

*One of the artistic elements of Youngstorget: the “labourer” being the symbol of the main Labour Union.*



**The street as an extended road notion**

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)



**Figure 5.49 - 5.50:**  
*Torggata in Hamar. Two examples of a poorly designed assortment and distribution of benches reduce the quality of the total visual and aesthetical impact.*



### ***The street as an extended road notion***

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)

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#### **Lightning**

Lightning is an important urban element both functionally and aesthetically. In Oslo, street lightning consists mostly of elevated fittings supported by wires on walls at an approx 6 m height. In the squares, however, one finds candelabras with white globes, being a part of a major standard design assortment; a program that was initiated as an attempt to improve the public design standard of the capital, but unfortunately without the quality for it to contribute towards new design trends – now being sadly outdated. Bergen also has wire fittings as their main lightning system, although new lightning design as been developed as part of the rehabilitation for some new street and squares, Vetrilidsalmenningen being an excellent example (Fig 5.52). In Trondheim and Hamar, the street in the study areas are generally lit by standard street fittings, an exception is the recently rehabilitated Torggata in Hamar, which has standard design fittings of approved quality.



**Figure 5.51:**

*The street lightning in Vetrilidsalmenningen, Bergen, is a part of the public design program with an undisputable high quality.*

### ***The street as an extended road notion***

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)

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#### **Vegetation**

Generally there is very little vegetation in the various study areas. In Oslo there is some vegetation, mostly trees, in, and adjacent to, the main squares Stortorvet (especially by the Domkirken) and Youngstorget, while important public arenas as the pedestrian street Torggata and Jernbanetorget are basically without any type of greenery. In Bergen vegetation is also scarce. One exception is Vetrilidsalmenningen, having new trees planted as the overall design of the street. In the study area of Trondheim one finds quite a few trees, both in Elgeseter gate, Olav Tryggvasons gate and Fjordgata. However, vegetation has no important impact as a design premise. This is also the case for Hamar, although Strandgata delimits towards a park, giving it a green appearance (Fig 5.53).



**Figure 5.52:**

*Strandgata in Hamar has a green appearance, having the potential to be a pleasant social arena given reduced traffic and expanded pavements.*

### **5.3.3 Offers**

“Offers” is an essential factor when it comes to generate social activity, some will state the most dominant. The notion offers includes in this study *commerce* (primarily shops), *commercial services* (such as primarily hotels, restaurants and cafes), *culture* and *public services* (theaters, cinemas, museums, post offices etc). Generally the various study areas comprise a wide range of offers. The selected areas basically embody the most commercial part of each city, giving the study area an over-representative status when it comes to offers.

#### **Commerce**

As indicated, the study areas generally include the most prosperous commercial areas of the each city, Oslo being a special case. In the study area of Oslo, traditionally called “Torgbyen” (the market city), one finds most types of shops, including four shopping malls, Oslo City and Gunerius being the largest with 75 shops each. The former has annually 12 million visitors, 4 millions being non-shoppers, while Gunerius has 4.5 mill shoppers on an annual basis. The study area has a strong and long tradition as a commercial area, although the establishment of the successful Aker Brygge has dislocated the commercial center westwards. The area was once characterized by trade-related streets, Møllergata being the “furniture-street”, Torggata the “hardware-street”, Storgata the “clothing-street” and so forth.

Today such trade shops still exist in the respective streets, but the commercial pattern has become more uniform, especially with the increasing appearance of chain shops, H&M being a representative example. The tendency of transformation in the commercial pattern also characterizes some of the study areas in the other three cities. Torggata and Strandgata in Hamar have relatively few chain shops, Fjordgata in Trondheim has retained its position as the specialized commercial street of the city, Vågsbunnen and Vaskerelven are characterized by small specialized shops with a wide specter of offers, while the commercial offers of Bryggen are primarily addressed towards tourists. The chain shops, however, are usually established in

### ***The street as an extended road notion***

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)

---

areas with a high level of human activity as such activity, or the potential of such activity, seems to be decisive for their location. Consequently, places like Torgalmenningen in Bergen, Olav Tryggvasons gate in Trondheim and most of the study area of Oslo are dominated by chain shops offering popular but tedious and homogeneous commercial products.

## **Commercial services**

Commercial services comprise here primarily facilities such as cafes and restaurants. The presence of commercial services is an essential indicator of the level of attractiveness of a certain area at the same level as for instance chain stores. As mentioned, the study areas include the most prosperous commercial areas of each city. Consequently the commercial services, such as hotels, restaurants and cafes, are well represented.

In Oslo more than 60 commercial service establishments are registered in the study area, 10 of them with outdoor facilities. There are a total of 875 seats at street level basically for summer use. The establishments are evenly scattered throughout the area, and they differ in type and standard (from pizza kiosks to luxury restaurants). A relatively high proportion of establishments have additional facilities such as discos, bars and music clubs. Only one hotel is registered, but the major hotels in the city center are within walking distance <sup>C6</sup>. The facilities in this part of Oslo are neither representative for the other participating cities nor compared to the Norwegian average. As the commercial service establishments in Oslo are almost equally represented in each of the registered streets/ squares, the facilities in Bergen, Trondheim and Hamar are situated in specific locations within the study areas: Vågsbunnen in Bergen, Torggata in Hamar and both Olav Tryggvasons gate and Fjordgata in Trondheim, the latter with an equal share of the number of establishments but with dissimilar offers, reflecting their commercial characteristics.

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<sup>C6</sup> *"Walking distance" is a relative notion. One might state that the size of the city is proportional with the distance a person is willing to walk to her/ his destination from a certain starting point.*

## **Culture and public services**

Culture comprises theaters, cinemas, museums and other types of cultural establishments, while public services comprise post offices, banks, libraries, health care and so forth. In the study area of Oslo the main cultural attraction in a symbolic sense is the Opera with an audience of approx 120 000 people a year. Despite being an important cultural institution, the Opera is insignificant as a generator of social life. That kind of characteristic is more likely to be linked to Eldorado cinema, being the most visited cultural establishment in the area. The cinema has five movie theaters with an annual audience of 560 0000 mostly young people enjoying the repertoire of action and adventure movies. A close runner up is the Oslo Spectrum, one of many concerts halls in the area, with approximately 500 000 visitors a year, featuring rock concerts and other musical events. In contrary to the high number of cultural establishments in Oslo, the study-area in Bergen has none whatsoever. The study-area in Trondheim is apparently more cultural, having Samfunnet (the University culture center) adjacently located to Elgeseter gate, and "Olavshallen" and the Nova cinema centre within a short walking distance from Olav Tryggvasons gate. The main cultural offers in the study-area in Hamar are related to the city cinema located in Torggata and the Kirsten Flagstad memorial museum. The art galleries in Grønnegata suffer from the derelict appearance of the street and are scarcely visited.

Public services, such as banks and post offices, are generally located within all study-areas. However, the only public service establishment with any significance as a social generator in the whole study is probably the Hamar library, not a social magnet but frequently visited.



### **5.3.4 Accessibility**

Accessibility is an essential factor for the city to become available. Seven categories of accessibility have been registered: car, parking, goods delivery, public transport, bike, and walking availability.

#### **Cars and parking**

The accessibility by car to the study-area in Oslo must be described as good, although the accessibility within the area is restricted due to an extensive traffic control that gives preference to public transport and pedestrians. To drive efficiently in this restricted zone requires a high level of local acquaintance (and patience). The parking facilities within the Oslo study-area are more than adequate. There are facilities for 1050 cars for indoor parking and 100 cars for outdoor parking. Just outside the study-area there are additional multi-storey car parks. Some of the indoor parking facilities are linked to the main traffic system (the inner-ringway- "Ring 1"), giving them optimal accessibility. In Bergen Bryggen and Strandgaten have good car accessibility, Vågsbunnen, Småstrandgaten and Vaskerelven poor, while Torget and Torgalmenningen are pedestrian zones. However, Torget might be considered as a pedestrianized island surrounded by heavy car traffic. The proposed Skansen tunnel will divert the car traffic from Bryggen, leaving this particular area car free.

#### **Public transport**

The Oslo study area has the best accessibility for public transport in the city and in the country as a whole. This is primarily due to Oslo Central Station (Oslo S), which is by far the largest and frequently used public transport junction in Norway, comprising regional and local railways and buses in addition to local underground, tram-system and taxi. A consequence of the extensive proportion of different types of public transport routes, and a corresponding number of departures and arrivals, is a high concentration of city users in the area. However, the use is basically linked to the public transport facilities although there are a high number of shops (in two major shopping malls) in the adjacent surroundings. The main square (Jernbanetorget) in front of Oslo S has no attractions to generate social life except for inviting people

### ***The street as an extended road notion***

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)

---

queuing up at bus- and tram stops for an occasional chat, an impulsive act very unfamiliar to the Norwegian personality. In the north part of the Oslo study area the accessibility for public transport is far more limited; Møllergata for instance has no public transport offers whatsoever within the street. It must be mentioned that Oslo is the smallest city in the world having an underground tube-system, the main station being situated at Oslo S. The public transport offer within Bergen, Trondheim and Hamar is primarily restricted to buses. In Bergen, Bryggen and Småstrandgaten are the study areas with the best accessibility. In Trondheim all the three registered streets have good public transport accessibility. However, the offer is varied, as Elgeseter gate has 18 bus routes, Olav Tryggvasons gate 21 and Fjorgata none, though the latter is adjacent to both Olav Tryggvasons gate, the railway station and the bus terminal, giving it an overall reasonable accessibility. In Hamar, most of the bus traffic is centralized within the city center (basically the whole study area), the bus stop at Stortorvet being definitely the most busy. Furthermore, Stortorvet is the only place among the study areas with a taxi stop, giving this particular spot the best public transport accessibility in the city.

### **Pedestrians and bikes**

In the Oslo study area there are relatively large areas reserved for pedestrian use; however, too limited to provide sufficient space for the huge amount of commuters arriving or departing by public transport at daily bases. The study area has no pedestrian zones, although most of the squares (Yongstorget and Stortorvet) have most of their areas reserved for pedestrian use only. The east part of the study area is closely situated to, and is marked by, the residential quarter of Grønland/ Tøyen representing a blooming urban setting primarily inhabited by first and second generation immigrants with continental urban customs unlike those characterizing the native Norwegian. The Oslo study area is poorly arranged for bikes. The only street with planned accessibility for bikes is Torggata, which has become the main bike route from the north part of the city center (basically from the neighboring borough of Grünerløkka, an old residential area now being renewed). However, the planning is amazingly weak, providing the bike riders anything but accessibility, for instance due to incorrectly, but still legally, parked cars.

***The street as an extended road notion***Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)

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In the Bergen, one finds the most desired urban social scenes in the city just in the core of the study area. Torgallmennigen is the urban and social heart of the city, the “Blue Stone” representing the “canonized” social spot. The square, probably the most spectacular “urban room” in the country, has recently undergone a severe renewal at an extreme aesthetical quality being typical for the ambition of the city council of Bergen. City users and tourists frequently visit Torget and Bryggen during the summer season. The two attractions offer good accessibility although the car traffic in the area creates a barrier between the sea-front and the building blocks (including shops and other facilities). However, the proposed Skansen tunnel will divert the car traffic from Torget and Bryggen (and adjacent areas) and convert these areas into pedestrian zones- an important asset to the Bergen city center. The traditional streets, such as Småstrandgaten, Strandgaten and Vaskerelven have relatively good car- and bike accessibility, although the latter is a one-way street.

In Trondheim all the registered streets have comparatively good car and bike accessibility. Olav Tryggvasons and Elgeseter gate have most traffic, the former as the main heavy traffic route through the city center, the latter as the main approach to the city from the south. Heavy traffic creates barriers, although the car traffic is less noticeable in Olav Tryggvasons gate due to for instance its location within Midtbyen, its architectural characteristics and its function as a major shopping street. As Elgeseter gate foremost appears to be a main traffic route with certain adjacent facilities, including a major cinema center, the Trondheim Theatre and the shopping center “Trondheim Torg”, Olav Tryggvasons gate gives the primary impression of being a popular multifunctional street being accidentally troubled with inevitable traffic that does not seem to reduce the interest of the public and the establishment enthusiasm of the major chain shops.

In the Hamar study area, the car traffic is centralized to Strandgata, which is the major bypass through the city center. Grønnegata and Østre Torg are also available for cars, but not having many offers themselves, these two areas primarily provide parking facilities for their blooming neighbor Torggata. There is bike accessibility within the whole study area, but on a general basis. Bikes is not prioritized in Hamar.

## 5.4 Factual Street Use

As the registrations of the quantitative and qualitative characteristics of the street describe the physical conditions of the particular arena where the social street activity occurs, the registration of factual use describes the actual life itself by plotting people on certain days and at certain times of the day. In addition, registration of car traffic, public transport and cyclists has been carried out to appraise how, or if, such activities effect the social street activity.

At any rate, the registration of factual street use, linked both to quantity and location, is of vital importance to understand why people are mingling in one particular street and avoiding another, apparently for no rational reason, bearing in mind that the presence of people actually is the best evidence for a social successful urban space. Furthermore, such registrations provide the planner with fundamental information in the task to design a street with offers regarding both accessibility and recreational facilities.

The registrations in the four cities have been accomplished according to the same model. However, the selection of days for registration and the time during the day might differ from city to city. The following registrations have been carried out:

- E. Motorized traffic**, including both traffic intensity and traffic patterns.
- F. Public transport** such as buses, trams, train, taxi and tube.
- G. Cyclists**
- H. Pedestrians**, including pedestrian traffic and recreation use.

### **5.4.1 Motorized traffic**

25 of the 27 streets being studied are multifunctional streets, having car traffic as an important functional element. Both the Local Council and the local Road Office carry out registrations of cars in the main streets in their cities at regular time intervals. The research program was fortunate to have free access to these data, and has therefore used the available registration Figures although they are necessarily not 100% up to date in every case. Available data for different time periods give the research program valuable information about traffic development in specific areas including changes in traffic patterns. Information about traffic patterns is equally important as traffic intensity. First, change in traffic patterns can have immense impact on other functional activities in an area, and such changes can be implemented by simple physical means. Second, knowledge about different streets having varied traffic patterns, can give the planner a basic comprehension that streets are a far more versatile transport artery than is the case for the rural road- and consequently is subjected to a totally different planning procedure. Altogether 29 streets have been registered for car traffic in the study: 15 in Oslo, 3 in Trondheim, 7 in Bergen and 4 in Hamar.

### **5.4.2 Public transport**

Public transport is not given much attention in the research program except in Oslo, where public transport makes a major impact on urban life in the research area. The Bergen- and Hamar study have no registration of public transport and the Trondheim-study gives it limited concern, partly because there are not sufficient registrations available. As is the case for registration of car traffic, the research program has been dependent upon external contributors to bring forward feasible registration Figures for public transport. The major contributors to the Oslo-study have been the Local Council and the local public transport company. Altogether 9 stops have been registered for public transport users in the study: 7 in Oslo and 2 in Trondheim.

**The street as an extended road notion**

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)

**5.4.3 Cyclists**

The research program has carried out registrations of cyclists for all cities except in Oslo. The Oslo study has used local data from the Local Council and from a major bicycle research study carried out by the Public Roads Administration in 1997. This study showed a strong increase in bike traffic in the city centre of Oslo as a whole. Altogether 11 streets have been registered for cyclists in the study: 2 in Oslo, 3 in Trondheim (with 2 registrations each), 3 in Bergen and 3 in Hamar. The registrations have been carried out at the following days:

<b>Period:</b>	<b>Trondheim</b>	<b>Bergen</b>	<b>Hamar</b>	<b>Oslo</b>
<i>Summer weekday*</i>	xxx			
<i>Summer Saturday</i>		xx	x	
<i>Summer Sunday</i>		x		
<i>Summer Tuesday</i>		x		
<i>Summer Thursday</i>		x		
<i>Winter weekday*</i>	x			
<i>Winter Saturday</i>		x	x	
<i>Winter Sunday</i>				
<i>Winter Tuesday</i>		x	x	

**Table 5.3:**

*Summary of registrations of cyclists on daily and seasonal basis. "x" indicates one registration.*

*\* Day not specified.*

As a standard the registrations have been carried out in the selected streets during a 15 minute period at the following hours (each 15 min registration has been converted into an hourly average):



**The street as an extended road notion**

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)

Time interval	Trondheim	Bergen	Hamar	Oslo
10.00-10.15	x	x	x	
11.00-11.15			x	
12.00-12.15	x		x	
13.00-13.15	x	x	x	
14.00-14.15			x	
15.00-15.15	x		x	
16.00-16.15	x	x	x	
17.00-17.15				
18.00-18.15	x			
19.00-19.15		x		
20.00-20.15				
21.00-21.15				
22.00-22.15		x		
23.00-23.15				
24.00-00.15				
01.00-01.15		x		

**Table 5.4:**

*Summary of registrations of cyclists on an hourly basis.*

## 5.4.4 Pedestrians

In order to appraise the social street activity, pedestrians are the most important group that is subject of registration. Pedestrians is used here as a common description of both people walking (here defined as *pedestrian traffic*) and people sitting/ standing (here defined as *recreation*). Every city has carried out an extensive study in order to be able to draw an optimal picture of the city user, both with regard to pedestrian intensity and to type of activity and where this activity takes place. The program has followed the Copenhagen-study in dividing the registration into two parts: **registration of pedestrian traffic and registration of recreation.**

### Pedestrian traffic

Pedestrian traffic is here defined as a transport activity, described as the number of pedestrians registered walking past a certain checkpoint. As a standard for all cities, the registrations have been carried out during a 15 minute period. This registration has subsequently been converted into an hourly average by multiplying the registration Figure by 4. The research program has carried out registrations in

### **The street as an extended road notion**

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)

altogether 24 streets/squares: 12 in Oslo, 3 in Trondheim, 4 in Bergen and 5 in Hamar. Both the selection of days and time interval for registration differs among the four studies. The registrations have been accomplished on the following days:

<b>Period:</b>	<b>Trondheim</b>	<b>Bergen</b>	<b>Hamar</b>	<b>Oslo</b>
<i>Summer weekday*</i>	xxx			
<i>Summer Saturday</i>		xx	xxx	xxx
<i>Summer Sunday</i>		x		x
<i>Summer Tuesday</i>		x	x	xxxx
<i>Summer Thursday</i>		x		
<i>Winter weekday*</i>	x			
<i>Winter Saturday</i>		x	xxx	x
<i>Winter Sunday</i>		x		
<i>Winter Tuesday</i>		x	x	x

**Table 5.5:**

*Summary of registrations of pedestrian traffic on daily and seasonal basis.*

*“x” indicates one registration*

*\* Day not specified.*

<b>Time interval</b>	<b>Trondheim</b>	<b>Bergen</b>	<b>Hamar</b>	<b>Oslo</b>
10.00-10.15	x	x	x	x
11.00-11.15				x
12.00-12.15	x		x	x
13.00-13.15	x	x		x
14.00-14.15			x	x
15.00-15.15	x			x
16.00-16.15	x	x	x	x
17.00-17.15				x
18.00-18.15	x		x	x
19.00-19.15		x		x
20.00-20.15			x	x
21.00-21.15				x
22.00-22.15		x	x	
23.00-23.15				
24.00-00.15			x	
01.00-01.15		x		

**Table 5.6:**

*Summary of registrations of pedestrian traffic on an hourly basis.*

### ***The street as an extended road notion***

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)

## **Recreation use**

Walking is generally a recreation activity. However, recreation use is here defined as a non-transport activity, described as:

- *Standing persons* (in conversations with others, window shopping, waiting for public transport, etc).
- *Sitting* (on public benches, on stairs, on the ground, etc).
- *Sitting* (on private benches, visiting outdoor cafés etc).
- *Other type of use* (children that play, street musicians, street salespeople, street workers, audience, other types of activities).

As for pedestrian traffic, the registrations have been carried out in the selected streets during a 15 minute period and subsequently converted into an hourly average. The research program has carried out registrations in altogether 27 streets/squares: 12 in Oslo, 4 in Trondheim, 6 in Bergen and 5 in Hamar. Both the selection of days and time interval for registration differs among the four studies. The registrations have been accomplished on the following days:

<b>Period:</b>	<b>Trondheim</b>	<b>Bergen</b>	<b>Hamar</b>	<b>Oslo</b>
<i>Summer weekday*</i>	x			
<i>Summer Saturday</i>	x	xx	xxx	x
<i>Summer Sunday</i>		x		x
<i>Summer Tuesday</i>		xx	xxx	x
<i>Summer Thursday</i>				
<i>Winter weekday*</i>	x			
<i>Winter Saturday</i>	x	xx	xxx	x
<i>Winter Sunday</i>		x		
<i>Winter Tuesday</i>		xx	x	x

**Table 5.7:**

*Summary of registrations of recreative use on daily and seasonal basis.*

*“x” indicates one registration.*

*\* Day not specified.*

**The street as an extended road notion**

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)

The registrations have been accomplished at the following times of day:

Time interval	Trondheim	Bergen	Hamar	Oslo
10.00-10.15	x	x	x	x
11.00-11.15	x			x
12.00-12.15	x		x	x
13.00-13.15	x	x		x
14.00-14.15	x		x	x
15.00-15.15	x			x
16.00-16.15	x	x	x	x
17.00-17.15	x			x
18.00-18.15	x		x	x
19.00-19.15	x	x		x
20.00-20.15			x	x
21.00-21.15				x
22.00-22.15		x	x	
23.00-23.15				
24.00-00.15			x	
01.00-01.15		x		

**Table 5.8:**

*Summary of registrations of recreative use on an hourly basis.*

## 5.5 Characteristics of Social Street Activities

To fully comprehend the characteristics of social street activity of the selected streets/squares, there have been 2122 interviews; 827 have been carried out in Oslo, 325 in Trondheim, 470 in Bergen (241 in summer and 229 in winter) and 500 in Hamar (400 in the city centre and 50 in each of the shopping malls). A questionnaire was prepared by the project administration (primarily myself) (enclosure 3) on the basis of the method used in the Copenhagen-study. Although, the questionnaire was carefully prepared, some statisticians stated that the study should have had a more methodical approach. These observations and general empirical research have indicated that statisticians are an important occupational group to include in the future preparation of similar studies.

A questionnaire was prepared for all study areas. The questions were approximately similar in all four cities. However, some local project managers decided to differ from the manual set by the project administration (primarily myself). The interviews took place generally at the same time as the registrations but purely during the summer period, except from Bergen that arranged interviews both summer and winter. The questionnaire was divided into three parts, although this is not differentiated in the form itself:

- I. **Local background information**, including time of year, month and day and weather conditions.
- J. **Personal information**, including type of household, age, sex, occupation, place of residence and place of work.
- K. **Social street activity specification**, including the object for the visit, the type of social street activity, the duration of the activity performance, the sense of security and what features of the physical environment that are most appreciated.

***The street as an extended road notion***

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)

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## 5.5.1 Local Background Information

The general information includes study area specification such as area identification (1-4), street/ square name, standpoint ID (basically house number), the month, day of the week and time of the day. Further the temperature was measured and weather condition was defined into the following categories:

sun, sun/ cloud, sun/rain, variable cloud, thunder, snow, rain, calm weather, discomfortable winds.

To determine the weather conditions is important as the weather is regarded as a major premise for outdoor activity. However, in Norway this applies especially in urban areas, as the Norwegians are much more likely to accept bad weather conditions while strolling in forests or mountain plateaus than along streets.

## 5.5.2 Personal Information

To identify the user and the character of the factual social street activity, the following questions have been put forward: type of household (number of persons), age (0.15) and sex. The interviewer has asked for age, occupation and place of residence and place of work. To specify the cause of the visit, the interviewer has asked for the general frequency of visits and the duration of the particular visit and accessibility regarding means of transport and parking availability. The registrations have been accomplished on the following days:

<b>Period:</b>	<b>Trondheim</b>	<b>Bergen</b>	<b>Hamar</b>	<b>Oslo</b>
<i>Summer</i>	x			
<i>Summer</i>	x	xx	xxx	x
<i>Summer Sunday</i>		x		x
<i>Summer Tuesday</i>		xx	xxx	x
<i>Summer</i>				
<i>Winter weekday*</i>				
<i>Winter Saturday</i>		xx		
<i>Winter Sunday</i>		x		
<i>Winter Tuesday</i>		xx		

**Table 5.9:**

*Summary of interview use on daily and seasonal basis. "x" indicates one registration.*

*\* Day not specified.*



***The street as an extended road notion***

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)

The registrations have been done at the following times of day:

<b>Time interval</b>	<b>Trondheim</b>	<b>Bergen</b>	<b>Hamar</b>	<b>Oslo</b>
10.00-10.15	x	x	x	x
11.00-11.15				x
12.00-12.15	x		x	x
13.00-13.15	x	x		x
14.00-14.15			x	x
15.00-15.15	x			x
16.00-16.15	x	x	x	x
17.00-17.15				x
18.00-18.15	x		x	x
19.00-19.15		x		x
20.00-20.15			x	x
21.00-21.15				x
22.00-22.15		x	x	
23.00-23.15				
24.00-00.15			x	
01.00-01.15		x		

**Table 5.10:**

*Summary of interviews on an hourly basis.*

### **5.5.3 Social Street Activity Specification**

To comprehend the nature of social street activity the interview objects were asked to give an account of the following factors set by the questionnaire:

- the object of the visit
- the features of the physical environment that are most appreciated
- the sense of well being
- the type of social street activity
- the duration of the activity performance

#### **a) The object of the visit**

The object of the visit was differentiated into the following categories, linking them to the differentiation by Jan Gehl as divided into necessary, optional and social activities:

Work (necessary)

1. Education (necessary)
2. Leisure (optional/ social)
3. Shopping (necessary/ optional/ social)
4. Culture (optional/ social)
5. Café/ restaurant (optional/ social)
6. Stroll (optional/ social)
7. Public transport (necessary)
8. Passing by (necessary)

#### **b) Appreciated features of the physical environment**

The features of the physical environment that were most appreciated were in the questionnaire divided into the following categories:

1. Commercial services
2. The urban setting being narrow/ cosy
3. The urban setting being open/ well arranged

### ***The street as an extended road notion***

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)

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4. Many people
5. Meeting acquaintances
6. Café/ outdoor life
7. Bushes and trees
8. Nice buildings
9. Quite and peaceful
10. Facilities for staying
11. Public transport
12. Car free zone

#### **c) The sense of well being**

The types of the sense of well-being were in the questionnaire divided into the following categories:

1. The feeling of well-being
2. Safety regarding traffic
3. Safety regarding crime and violence

#### **d) Type of social street activity**

The types of social street activities were presented in mean figures from each counting period (Section 7.2) and divided into the following categories:

1. Sitting/ others
2. Sitting bench
3. Sitting café
4. Standing/ public transport stop
5. Standing

#### **e) Duration of the activity performance**

In the questionnaire the duration of the activity was divided into the following categories:

1. 0-10 min, 2. 11-30 min, 3. 31-60 min, 4. 1-3 hours, 5. 4-6 hours and 6. > 6 hours

## 5.6 Synopsis

Chapter 6 describes the parts constituting the research method of the UL program:

- the first part being “**Premises for Social Street Activity**”,
- the second part being “**Factual Street Use**”, and
- the third part being “**Characteristics of Social Street Activity**”.

Summed up, the three parts are assessing the following eleven conditions:

- **Premises for social street activity**, assessing

1. General conditions
2. Street character
3. Offers
4. Accessibility

- **Factual street use**, assessing

5. Car traffic
6. Public transport
7. Cyclists
8. Pedestrian traffic

- **Characteristics of social street activity**, assessing

9. Local background information
10. Personal information
11. Social street activity specification

More detailed illustrations of the eleven conditions for social street activity are presented in the following tables: 5.11 – 5.13:

**The street as an extended road notion**

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)

The premises for social street activity (Section 5.2) can be summed up as follows:

<b>1: GENERAL CONDITIONS</b>	<b>1. LAND USE</b> - buildings - street floor - park/ greenery - square - public and private courtyards - sea/ waterfront - pavements	<b>2. DEMOGRAPHY</b> - number of inhabitants - age distribution - household distribution - native background	<b>3. CLIMATIC CONDITIONS</b> - average summer normal - average winter normal - average summer registration - average summer registration
	<b>4. ENVIRONMENTAL STRAINS</b> - noise - air pollution (gas) - air pollution (dust) - traffic barriers	<b>5. CRIME AND VIOLENCE</b> - crime - violence - security (factual/ experienced) - insecurity (factual/ experienced)	<b>6. TRAFFIC ACCIDENTS</b> - fatal accidents - serious accidents - reported accidents - unreported accidents
<b>2: STREET CHARACTER</b>	<b>1. THE BUILT FORM</b> - urban structure - architectural style - building age - height of buildings - materials - maintenance	<b>2. THE STREET ROOM</b> - SR-factor - three dimensional characteristics	<b>3. STREET FURNITURE AND VEGETATION</b> - paving - street furniture - technical fittings - lightning - traffic signs - advertising - vegetation
	<b>3: OFFERS</b> - specialized shops - chain shops - stalls and kiosks - street vendors, etc etc	<b>2. COMMERCIAL SERVICES</b> - hotels - restaurants - cafes - banks, etc	<b>3. CULTURE AND PUBLIC SERVICES</b> - theaters - cinemas - museums - galleries - post offices, etc
<b>4: ACCESSIBILITY</b>	<b>4. CARS AND PARKING</b> - car accessibility - in-door parking - out-door parking - general parking facilities	<b>5. PUBLIC TRANSPORT</b> - public transport stops - terminals - bus - tram, train, taxi, tube - general public transport facilities	<b>6. PEDESTRIANS AND BIKES</b> - pavement area - space for social street activity - general bike access - bike lanes

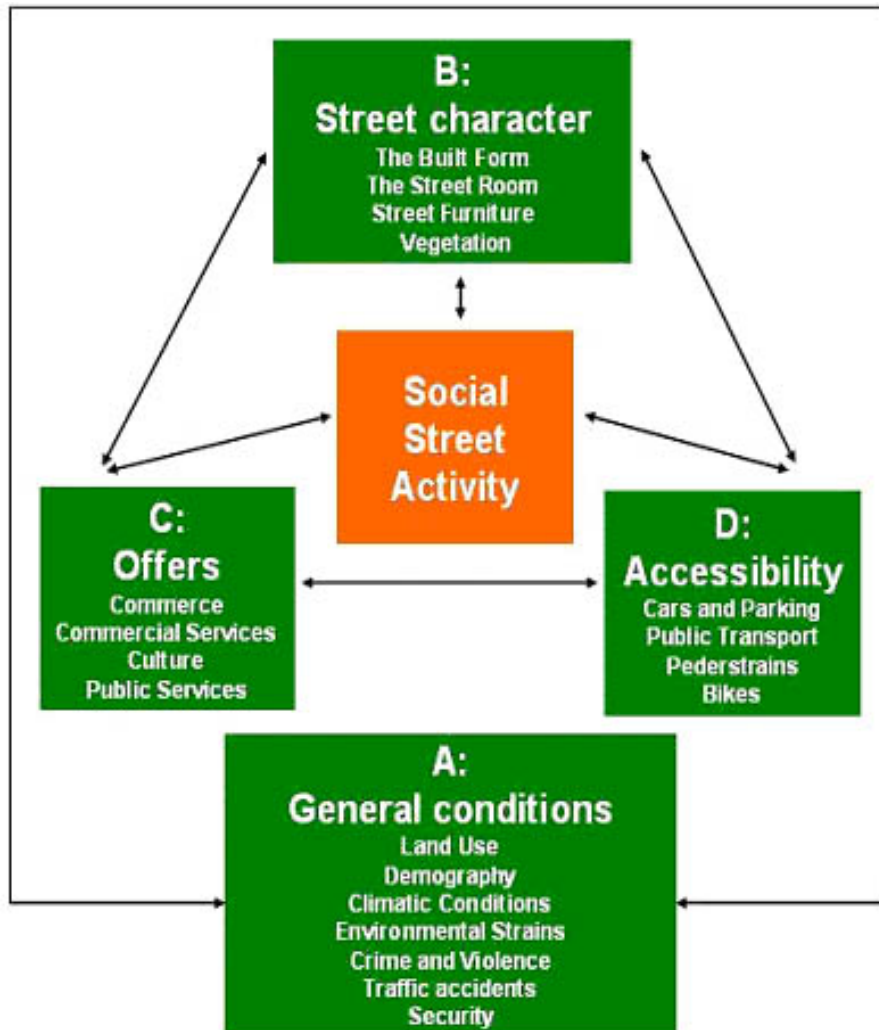
**Table 5.11:**

*The premises for social street activity presented in four categories.*

Table 5.11 illustrates the manifold of premises for street design and the conditions for obtaining optimal social street activity as registered by the UL program. The program concludes that there is an obvious relationship between the four conditions illustrated by diagram figure 5.16 below:

**The street as an extended road notion**

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)



**Figure 5.54:**  
The relationship between the premises for social street activity as presented by the UL program.

**Fig 5.40:**  
Postbygget and Plaza  
Hotell aret he two tallest  
buildings in Scandinavia.



***The street as an extended road notion***

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)

The factual street use (Section 5.3) can be summed up as follows:

<b>5: CAR TRAFFIC</b>	<b>1. MOTORIZED TRAFFIC VOLUME</b> - AADT - registration by local Council - registration by local Public Roads Office	<b>2. CAR TRAFFIC INTENSITY</b> - hourly car traffic	<b>3. CAR TRAFFIC PATTERNS</b>
<b>6: PUBLIC TRANSPORT</b>	<b>1. BUS</b>	<b>2. TRAM</b>	<b>3. TUBE</b>
	<b>4. TAXI</b>	<b>5. TRAIN</b>	<b>6. GENERAL PUBLIC TRANSPORT FACILITIES</b>
<b>7: CYCLISTS</b>	<b>1. CYCLISTS</b> - registration by local Council - registration by local Public Roads Office		
<b>8: PEDESTRIANS</b>	<b>1. PEDESTRIAN TRAFFIC</b> - walking - on seasonal basis - on hourly basis	<b>2. RECREATIONAL USE</b> - standing - sitting (on public bench etc) - sitting (cafés etc) - other type of use	

**Table 5.12:**

*Three categories of factual street use.*

***The street as an extended road notion***

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)

The characteristics of social street activities (Section 5.4) can be summed up as follows:

<b>9: LOCAL BACKGROUND INFO.</b>	<b>1. CITY</b> - Oslo - Bergen - Trondheim - Hamar	<b>2. STREET/ SQUARE</b> - specific street/ square	<b>3. STANDPOINT</b> - specific registration spot
	<b>4. TIME OF YEAR/ MONTH</b> - summer - winter - month	<b>5. TIME OF DAY</b> - 10.00 – 01.15-	<b>6. WEATHER CONDITIONS</b> - sun - sun/ cloud - sun/rain - variable cloud - thunder - snow - rain - calm weather - duncomfortable winds
<b>10: PERSONAL INFO.</b>	<b>1. HOUSEHOLD</b> - number of persons	<b>2. AGE</b> - SR-factor - three dimensional characteristics	<b>3. SEX</b> - female - male
	<b>4. OCCUPATION</b>	<b>5. PLACE OF RESIDENCE</b>	<b>6. PLACE OF WORK</b>
<b>11: SOCIAL STREET ACTIVITY SPECIFICATION</b>	<b>1. OBJECT OF VISIT</b> - work - education - leisure - shopping - culture - café/ restaurant - stroll - public transport - passing by	<b>2. TYPE OF ACTIVITY</b> - sitting/ others - sitting bench - sitting café - standing / public transport stop - standing	<b>3. DURATION OF ACTIVITY</b> - 0-10 min - 11-30 min - 31-60 min - 1-3 hours - 4-6 hours - > 6 hours
	<b>4. SENSE OF SECURITY</b> - well being - towards traffic - towards crime and violence	<b>5. FEATURES</b> - commercial services - narrow/ cosy - open/ well arranged - many people - meeting acquaintances - café/ outdoor life - bushes and trees - nice buildings - quite and peaceful - facilities for staying - public transport - car free zone	

**Table 5.13:**

*The characteristics of social street activities.*

***The street as an extended road notion***

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)

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# **Chapter 6**

# **SOCIAL STREET ACTIVITY**

# **ASSESSMENT**

## **(SSAA method)**

## **6.1 Preface**

As described in Chapter 5 the UL program provides:

1. a registration of the physical premises for social activity (section 5.3),
2. a registration of factual street use (section 5.4), and
3. a registration of characteristics of social street activities (section 5.5)

Furthermore, the characteristics of social street activities provide registrations of:

- the local background conditions during the registration,
- personal information of the interview objects,
- social street activity specification, describing:
  - Type object of the visit
  - Features of the physical environment
  - The sense of well being
  - Type of social street activity
  - Duration of the activity performance

The aim of the SSAA method is to use the characteristics of the social street activity derived in the UL program to:

- a) more clearly comprehend the social street activity,
- a) evaluate of the relationship between the various relevant empirical data, and to practical assess the empirical data in order to challenge the two previously mentioned hypotheses.

***The street as an extended road notion***

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)

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Thus, if for instance a person on an obligatory walk (for instance to work) is encouraged to take a conscious or unconscious break by sitting down on a bench,

- the obligatory walk, described as a necessary or a optional activity is the initial intent of the activity, might be referred to as the **social intent** (in Section 5.5.3 described as “the object of the visit”).
- the arena where the break takes place (for instance an urban square), might be referred to as a **social arena**
- the factor that encouraged the break (for instance the physical and functional setting incorporating for example a pleasant physical environment, a popular café and the presence of others), described as a factor that generates social street activity, might be referred to as a **social factor** (in Section 5.5.3 described as “the features of the physical environment that are most appreciated”).
- the subjective emotional attitude towards the social street activity derived from the social factors, might be referred to as **social comfort** (in Section 5.5.3 described as “the sense of well being”).

These factors are decisive for a necessary activity to become a social activity over a certain time period, thus:

- the character of the break, in this case resting on the bench, might be referred to as a **social street activity** (in Section 5.5.3 described as “the type of social street activity”), and
- the duration of the break might be referred to as **social duration** (in Section 5.5.3 described as “the duration of the activity performance”).

***The street as an extended road notion***

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)

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Consequently, this thesis has introduced the following seven terms that are argued to be decisive to comprehend social street activity,

- **social intent:** *the initial intent leading towards a social street activity*
- **social arena :** *a physical setting that generates optional social street activity performed singly or with other people*
- **social factor:** *a factor that generates social street activity or encourages people to alter necessary activities into optional*
- **social comfort:** *the subjective and emotional attitude towards the social street activity*

leading to the dependent variables:

- **social street activity:** *the nature of optional social street activity performed singly or with other people*
- **social duration:** *the duration of the social street activity performed in minutes/ hours,*

generating:

- **pedestrian intensity:** *the amount of pedestrian traffic registered within a certain time period within a certain arena.*

However, the elucidation of a true social arena and to what degree pedestrian intensity generates social street activity is determined by the ratio between social street activity and pedestrian intensity. This ratio describes the true level of social street activity independent of the level of pedestrian intensity and the corresponding social street activity. Thus, this thesis has introduced an eighth factor termed:

- **social performance ratio:** *an indicator of factual social street activity being the ratio between social street activity and pedestrian intensity.*



## 6.2 The Social Intent

*- the initial intent leading towards a social street activity*

The methodical parameter “social intent” refers to the initial purpose of the social activity registered through interviews. This thesis defines the initial purpose of the factual activity performed to be either of a necessary or optional character that might lead to a social activity. This differs from the definition of Jan Gehl who differentiates such intent into the categories: necessary, optional and social.

In traditional transport planning the initial intent of travelling is generally linked to a destination, meaning that the purpose of a person travelling is to reach a certain destination safely, comfortably and as fast as possible. However, the object of a journey might actually be the trip itself, the sheer joy of movement, or the experience of the glory and physical attraction of a particular route. And furthermore, a trip might represent a break from the everyday life, giving the traveller an experience beyond movement and physical attraction, namely a physiological escape from the reality.

A person resting on a public bench in the city square might either been passing by on a necessary undertaking but for some reason been encouraged to stop for a break, or he/she might have initially been determined to specifically go to a square to have a sit down, with the prime intent of exploring the urban life of the city at that particular spot. The former initial activity might be described as an optional activity leading into a social activity (the latter being described as the true social activity), both equally important to assess the social quality of the physical environment. The UL program has introduced the following parameters for such initiative purposes in all cities:

- leisure / holidays
- shopping
- cultural offers
- café/ restaurant
- stroll,

### ***The street as an extended road notion***

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)

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- change of public transport,
- passing by
- work
- education.

The above parameters, derived by interviews, are not complementary, although they are evidently giving an indication of the various types of activity purposes. What type of social intents that might be categorized as social activities is a matter of subjective opinion. However, although the parameters “work”, “education”, “change of public transport” and “passing by” undoubtedly might be described as necessary, they clearly indicate a “social quality” of the specific setting that generates positive change of human behavior and activity. What such quality involves is of vital importance.

## **6.3 The Social Arena**

*- a physical setting that generates optional social street activity performed singly or with other people.*

The methodical parameter “social arena” refers to a specific urban setting with its particular physical and social characteristics. A social arena is normally described as a physical setting that generates human interactions. Such settings include all types of physical environments, indoors or outdoors, the latter category covers both urban and rural situations (for most Norwegians the forest appears to be an equally important social meeting place as the urban street). One might state that everywhere that an interaction between people might occur can be described as a social arena. However, this thesis extends this normal description by defining an urban social arena also to include a physical setting that generates human optional activity performed both *singly* as well with others.

## 6.4 The Social Factor

*- a factor that generates social street activity or encourages people to alter necessary activities into optional.*

The methodical parameter “social factor” refers to the factors that generate factual social activity of people registered through interviews. As the notion “social intent” gives account for the initial intention of the social activity or an activity leading up to the social activity and the notion “social activity” the factual activity itself, social factors describe the conditions that people appreciate within the social arena, representing a strong contributing aspect for the alteration of behavior. Some professionals claim, and rightly so, that if an urban physical environment (for instance a street or a square) encourages people to alter a necessary activity into an optional or social activity, it might be described as a social arena; it might even be categorized as an arena with “good social quality”. What factors that have such encouraging effect are in fact what both hypotheses seek to establish. This thesis states that such factors are numerous and far more versatile than alleged by most planners. Social factors might refer to both physical conditions within the social arena and the individual subjective attitude linked to the physical and emotional characteristics of the social arena. The UL program has concentrated on the following parameters:

- A good commercial and service offer (**commercial/services**)
- The street is narrow and “intimate” (**street being intimate**)
- The street is open and clearly set out (**street open/ clearly set**)
- Positive with many people (**many people**)
- Possibility to meet people (**meeting people**)
- A good café/restaurant offer (**café/restaurant**)
- Bushes and trees (**bushes and trees**)
- Nice buildings (**nice buildings**)
- Quiet and peaceful (**quiet and peaceful**)
- Good seating facilities (**seating/ stay**)
- Good public transport facilities (**public transport**)
- Positive with car free zones (**car free zones**)

## 6.5 The Social Comfort

*- the emotional attitude towards the social street activity.*

The methodical parameter “social comfort” refers to the personal and subjective emotional attitude towards the factual social activity registered through interviews. The notion “social comfort” represents a valid measure to identify the social quality of the arena - a measure of how the individual actually experiences their specific activity. One might state that the minimum demand for a successful social arena is that the users feel safe, content and comfortable. Thus, social comfort as a consequence of urban activity might include a variety of circumstances. However, this thesis restricts itself to assess the following parameters that are highly subjective and subject to individual distinction:

- the feeling of well-being,
- safety regarding traffic
- safety regarding crime and violence

The UL program has distinguished the parameter “social comfort” into three categories during interviews in different ways: unsafe, medium safe and safe, while the Oslo report has restricted itself to two categories: “yes” or “no”.

## 6.6 The Social Street Activity

*- the nature of optional social street activity performed singly or with other people.*

The methodical parameter “social activity” refers to the factual activity of people subjectively interpreted by the observer through registration/plotting. Urban social activity might be classified as optional activities defined in numerous ways. As previously mentioned, social activity is normally described as a positive or negative interaction between people (with emphasis on positive relations). It might also refer to a human performance that, consciously or unconsciously, is generating such interaction. However, as stated, this thesis extends this definition also to include

### ***The street as an extended road notion***

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)

individual social activities: meaning that the activity of a single person reading a book in a public space is equally social as two having a chat in the same arena. Jan Gehl describes social and optional activities as an antonym to necessary activities being defined as human compulsory performances such as buying groceries for living etc.<sup>C7</sup> If the obligatory walk to work every week-day might be categorized as necessary, the Sunday stroll is inevitably optional, and will most probably take another route.

The UL program presents various parameters for social activity, the results having been derived by plotting. Very few of these data indicate interaction between people, but are basically a registration of the actual activity by one single person at certain time intervals, restricted to stationary activities or activities that are possible to plot. This excludes for instance strolling as a factual activity although this is included as a social intent (Section 6.2). The following parameters are used as plotting parameter in the four cities:

<b>Time interval</b>	<b>Trondheim</b>	<b>Bergen</b>	<b>Hamar</b>	<b>Oslo</b>
<b>Sitting</b>				
Bench	X	x	x	x
Café	X	x	x	x
Other	X			x
Stairs	X			
<b>Standing</b>				
bus stop	X			x
Talking	X			
window shopping	X			
Waiting	X			
<b>Other types</b>	X	x	x	
Work	X			
exhibition	X			
Attended sale	X			
unattended sale	X			

**Table 6.1::**

*Parameters for social activities used for plotting.*

The parameters are tolerably varied, as the Trondheim report is the most detailed dividing for instance the parameters “standing” and “other” into four categories each.

<sup>C7</sup> Jan Gehl: “*Life Between Buildings*”, 1971

## 6.7 The Social Duration

*- the duration of the social street activity performed in minutes/ hours.*

The methodical parameter “social performance” refers to the duration of the social street activity performed, set by the observer or the assessor. A human activity might be described as a specific action performed over a certain interval of time. Consequently, any performance has to be undertaken within a definite time interval to be defined as an activity. The UL program has introduced six time interval categories:

- 0-10 min
- 11-30 min
- 31-60 min
- 1-3 hours
- 4-6 hours
- more than 6 hours

An urban space that invites people to optional performances over a certain time span is described as a social arena by this thesis. Thus, to indicate necessary generating factors as presented above, one has to define the notions “optional performances” and “time span”. This thesis defines social street activities independent of duration, meaning that a sudden break on a street bench over a period of 2 minutes might equally be described as a social street activity as a visit in an outdoor restaurant exceeding 2 hours. However, the character of the social activity might be determined by its duration. Consequently, a differentiation of social performance might be feasible introduced in order to comprehend such character. Therefore, the thesis has established three performance categories based upon the six intervals used in the UL-project:

- **low performance:** 0-10 minutes
- **medium performance:** 11-60 minutes
- **high performance:** 1- > 6 hours



## **6.8 Pedestrian Intensity**

*- the amount of pedestrian traffic registered within a certain time period (T) within a certain arena (A).*

The methodical parameter “pedestrian use” refers to the number of pedestrian activity regardless of social character. Pedestrian activity includes both necessary, optional and social activities as differentiated by Jan Gehl. A high level of pedestrian use within a street (or square) might indicate that the urban space attracts people or represents the only feasible alternative for pedestrian transportation – or both. It is important to bear in mind that the main generator to attract human beings is actually human beings themselves. Consequently, the main object is to create an urban space with such qualities that it is self-generative with regard to social activity.

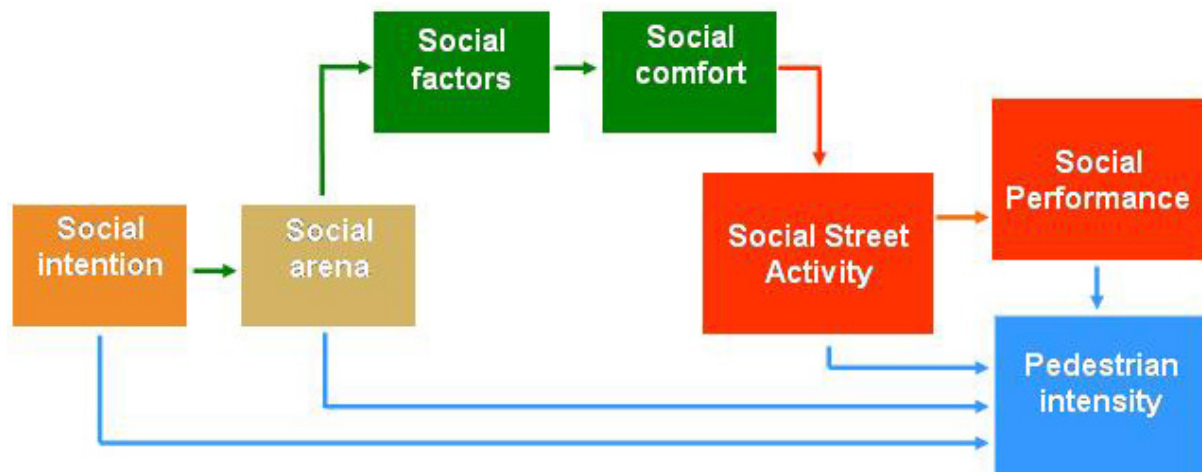
## **6.9 Social Performance Ratio**

*- the ration between Social Street Activity and Pedestrian Intensity.*

The methodical parameter “social performance ratio” describes the factual social street activity independent upon the level of pedestrian intensity and the corresponding social activity. The Social Performance Ratio is a clear indicator of factual street activity and to what level a particular street/ square actually is able to generate social street activity. One often finds that arenas with a high pedestrian intensity volume have a low social performance ratio. Generally, pedestrian streets fit in to this category being streets designed for strolling and shopping- not necessary for social street activities.

## 6.10 Parametric relationship

The relationship between the presented parameters in Chapter 6 might be described as follows using the course of procedure illustrated in Section 6.1:



**Figure 6.1:**  
*Parametric relationship*

Fig 6.1 indicates that pedestrian intensity is product of all types of pedestrian performance regardless of being social or not. Furthermore, from Fig 6.1 follows that the basis for pedestrian intensity and social street activity is the **social intent**. This initiate intention might be either necessary or optional as described by Jan Gehl. However, this thesis regard social activity as an activity derived by a necessary or optional intention. Thus:

- if the intention is **necessary** , meaning that a person initially wants to go to a certain non-social destination (for instance a shop) covering a necessary travelling route, the necessary activity can either produce:

- a) pedestrian intensity without any social significance being purely pedestrian transportation, or
- b) social street activity, if the necessary destination, the necessary travelling route or a accidental social occurrence (for instance meeting a friend) invites such activity.

***The street as an extended road notion***

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)

---

If the intention is **optional**, meaning that a person initially wants to visit a specific leisurely destination or cover a specific travelling route for pleasure, the optional activity might either produce:

- c) A social street activity, if the intent of the optional activity actually was to perform social street activity in the first place.
- d) A social street activity, if the optional destination, the optional travelling route or a accidental social occurrence (for instance meeting a friend) invites such activity.
- e) Pedestrian intensity without social significance, if the optional destination or the optional travelling route does not invite social street activity and / or if a social occurrence does not take place.

Thus, generally necessary pedestrian performances have normally a non-social intention being linked to a transportation situation, as optional performances initially have such social intention. This is, however, not always essentially the case. An optional activity might have various non-social incentives. Consequently, the reason why Fig 6.1 does not differentiate between necessary intentions and optional intentions, is that both might initiate social street activity; and what is vital to determine is, as previously described, what factors affect the determination of a person to perform a social activity independent of the initial intention.

According to Fig 6.1 these factors are defined as “social factors” and the “social comfort”, describing what elements a person is appreciating as a major motive for taking a social break in a particular setting (a social arena), and furthermore to what extent the same person feel safe within the same social arena. Therefore, the actual social street activity and the duration of the social performance are dependent upon the “social factors” and the “social comfort”. Consequently, these factors (indicated by green in Fig 6.1) might be described as independent variables, as social street activity itself and the duration of the performance are described as dependent variables.

***The street as an extended road notion***

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)

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Consequently, Figure 6.1 indicates that the factors that affect the determination to perform a social activity, and furthermore being the factors that explain such activity, are “social factors” and “social comfort”. These factors are furthermore affected by several parameters, “**motorized traffic volume**” and “**architectural attractiveness**” being vital contributors.

***The street as an extended road notion***

Part C: Local Empirical Research and Registration (Chapters 5, 6 and 7)

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# **Chapter 7**

## **REGISTRATION**

### **7.1 Preface**

This chapter presents the selection of mostly unpublished UL-program data by using the supplemented version of the descriptive registration methodology as presented in this thesis (Chapter 6). The registration is presenting registered data of the following parameters:

- **Social Arena**, a particular urban setting, derived from the UL-program.
  - **Social Intent (A)**: the most typical type of social intent attained by interviews.
  - **Social Factor (B)**: the most typical type of social factors attained by interviews, leading to :
  - **Social Comfort (C)**: the most typical type of social comfort attained by interviews.
  - **Social Activity (D)**: number of registered social activities attained by plotting.
  - **Social Duration (E)**: the most typical duration of stay attained by interviews.
  - **Pedestrian Intensity (F)**: total number of people, peak registration summer and winter, attained by plotting.
  - **Social Performance Ratio (G)**: ratio between social street activity (D) and pedestrian intensity (F).
- and finally:
- **Motorized Traffic Volume (H)**: registered motorized traffic including public transport.
  - **Architectural Attractiveness (I)**: the level of architectural attractiveness of a particular street or square.



***The street as an extended road notion***

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

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## 7.2 Individual Registrations

Fourteen of the total number of 27 study areas presented in the UL-program have been selected for further analysis - 8 streets and 6 squares. The streets / squares are presented in pairs to optimally illustrate similarities or differences. The selected areas are regarded as the ones that are best appropriate to illustrate social street activity versus motorized traffic and architectural attractiveness. These study areas are as follows:

- **Youngstorget and Stortorvet**, Oslo (Section 7.3.1)

Youngstorget and Stortorvet are the two main squares of Oslo: one with relatively heavy motorized traffic and one with modest traffic. Both have relatively high architectural attractiveness.

- **Torggata (southern part) and Storgata**, Oslo (Section 7.3.2)

Torggata and Storgata were both once the main shopping streets of Oslo. One street is a car free zone, the other has relatively heavy traffic. The architectural attractiveness is different.

- **Olav Tryggvasons gate and Fjordgata**, Trondheim (Section 7.3.3)

Olav Tryggvasons gate and Fjordgata are two important shopping streets with the same level of motorized traffic, both with

- **Vågsbunnen and Strandgaten**, Bergen (Section 7.3.4)

Vågsbunnen and Strandgaten are two very different streets both architecturally and functionally.

- **Torgalmenningen and Bryggen**, Bergen (Section 7.3.5)

The two most visited spot in Bergen, both of high architectural quality, the former with no motorized traffic, the latter with a high motorized traffic volume.

- **Stortorvet and Østre Torg**, Hamar (Section 7.3.6)

The two main squares of Hamar differ both functionally and architecturally.

- **Torggata and Strandgata**, Hamar (Section 7.3.7)

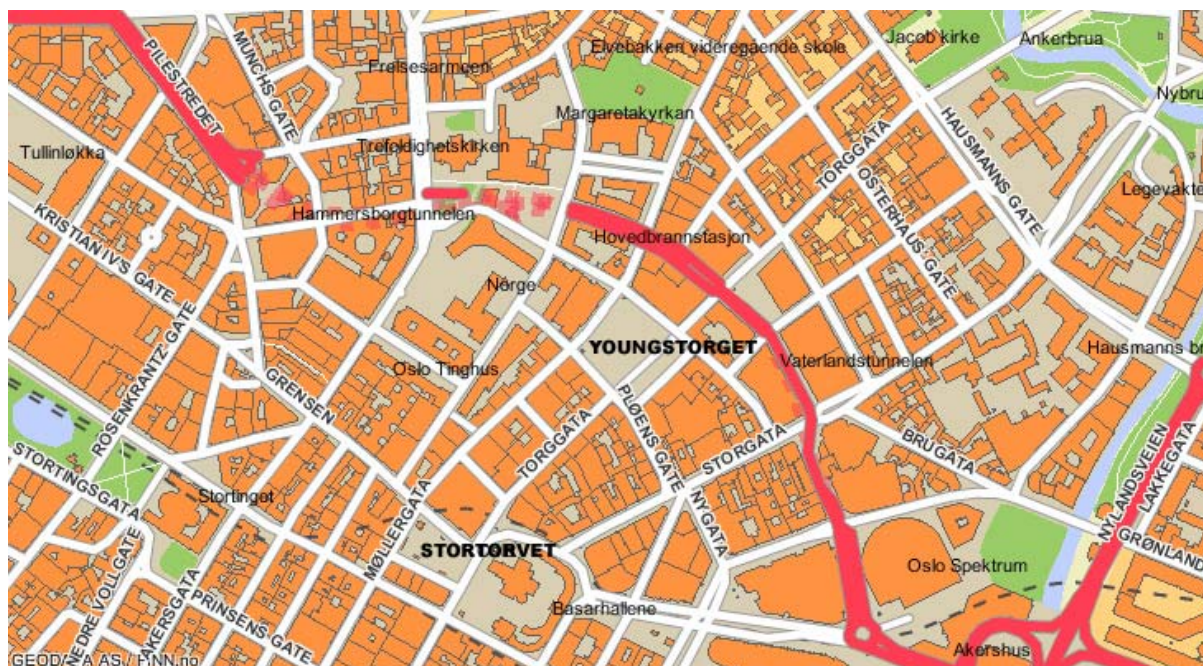
Torggata and Strandgata in Hamar are both shopping streets but differ radically with regard to motorized traffic as the former is a car free zone and the latter is the main access road through the city.

### *The street as an extended road notion*

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

## 7.2.1 Oslo: Youngstorget/ Stortorvet

Youngstorget and Stortorvet are the two main squares in Oslo, both with a long history as vegetable and flower markets (which is still an important function) and as social arenas. The two squares are interesting to compare for several reasons. Firstly the two squares have had a similar long history being market places and traditionally social arenas for different types of activities. During the first half of 1990s Youngstorget was rehabilitated with the aim to vitalize the square itself and its surroundings as the square, in contrast to Stortorvet, had obtained a doubtful reputation towards crime and unwanted behaviour. Although there are no studies to describe the situation prior to the rehabilitation, it is viable to identify if the upgrading has had any effect especially compared to Stortorvet that used to be the most preferable place to stay.



**Figure 7.1:**  
Map of the area surrounding Youngstorget and Stortorvet.

## ***The street as an extended road notion***

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

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### **Social arena: *Youngstorget***

- *car free square/ market place:*



**Figure 7.2:**  
*Map of Youngstorget within  
the total Oslo study area*

Youngstorget was laid out in 1846 as a market place for vegetables, fruits and flowers (fig 8.40). It still has this function although in a more modest capacity. During the mid 1950s the square had a scruffy reputation of being the play ground of the motorized rock hooligans. Subsequently the car seemed to dominate the square, but during 1993-1994 it was converted into a quiet arena for social gatherings and shopping through a major rehabilitation achievement some years ago; unfortunately without the number of visitors as anticipated, but still with an important social significance.

The square offers spatial space for outdoor catering, different types of commercial enterprises and for cultural activities. The square floor has a high level of physical detailing having a rehabilitated granite street covering, slated pavements and a reconstructed fountain revived after being stored away for more than half a century.



***The street as an extended road notion***

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

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**Figure 7.3:**  
*An ordinary day at the Youngstorget market place during the mid 1950s. The Labor Union headquarters located to the right.*



**Figure 7.4:**  
*The present Youngstorget still with some market activity. The Labor Union headquarters to the left and the headquarters of the Labor Party to the right.*

***The street as an extended road notion***

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

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Today Youngstorget is best associated by being the gathering ground for the celebration on 1<sup>st</sup> of May by the Labor movement, having both the headquarters for the Labor Union and the Labor Party located adjacent to the square as prominent architectural and symbolic features (Figs 7.3 & 7.4). However, the current enthusiasm for Labor-day cannot compare with the overwhelming crowds attracted during the 1960s (Fig 7.5).



**Figure 7.5:**

*The legendary Labor prime minister Einar Gerhardsen attracted enviable crowds, here at Youngstorget on 1<sup>st</sup> May 1965.*



***The street as an extended road notion***

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

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**Social arena: Stortorvet**

- square/ market place:



**Figure 7.6:**  
*Map of Stortorvet within the total Oslo study area*

**Stortorvet**

Stortorvet used to be the traditional market square (fig E6) of Kristiania <sup>C8</sup>, and was the first urban setting to be developed outside the city wall of the 1624 Kristiania plan <sup>C9</sup>. Stortorvet is still an outdoor market place for vegetables, fruit and flowers but on a much more modest level than the blooming days of the 1960s. It is now surrounded by motorized traffic and trams restricting its accessibility for pedestrians. However, having Karl Johans gate <sup>C10</sup> and several shops, including two major shopping centers, as its immediate neighbors, it is frequently visited as a shopping arena.

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<sup>C8</sup> the name of Oslo in the period 1624-1924

<sup>C9</sup> by the Danish/ Norwegian king Christian IV (1577-1648)

<sup>C10</sup> the national promenade and the busiest street in Scandinavia.



**The street as an extended road notion**

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)



**Figure 7.7:**  
*Stortorvet at its peride around 1900, when it constituted the heart of the capital.*



**Figure 7.8:**  
*The peresent Stortorvet still has a certain market function. The disliked “Kredittkasse”-building is located in the back. The kiosk to the right has been the location of numerous outdoor cafés seemingly (and surprisingly) without any potential for customers.*



***The street as an extended road notion***

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

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Today Stortorget has not the same reputation of being an assembly arena as is the case of Youngstorget. However, Stortorget has through history had a far more important symbolic significance as the main city square and used to be the natural arena for public gatherings (Fig 7.9).



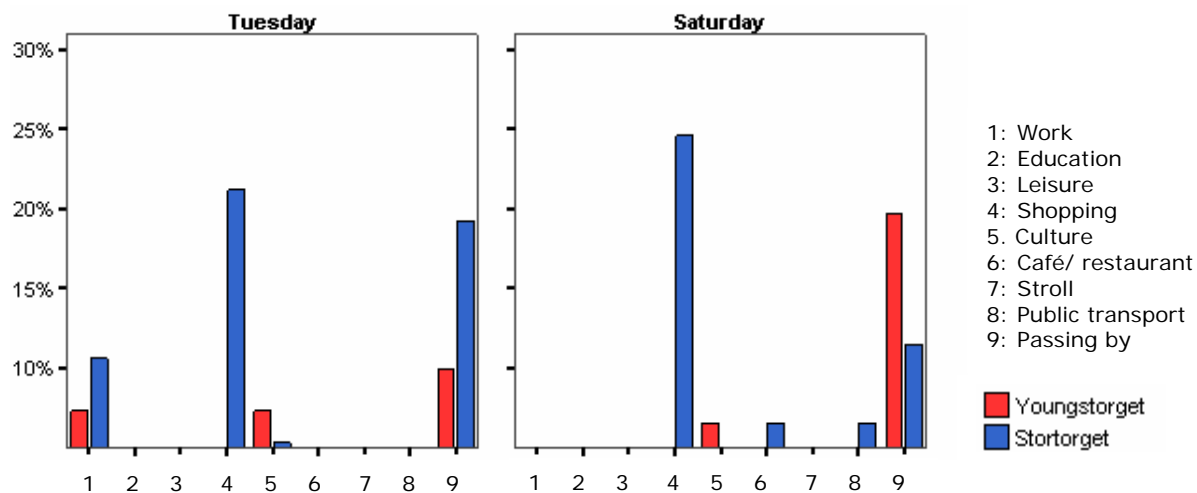
***Figure 7.9:***

*People gathering in Stortorget on 13<sup>th</sup> August 1905, awaiting the outcome of the referendum to dissolve the union with Sweden.*

**The street as an extended road notion**

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

**A: Social intent**

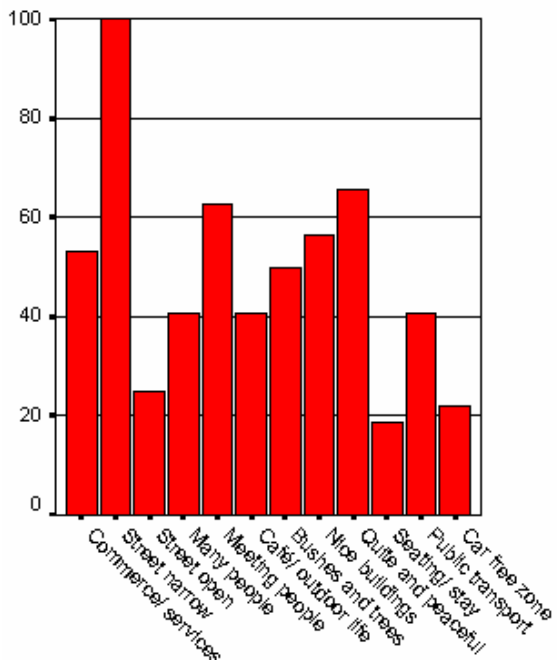


**Table 7.1:**  
**SOCIAL INTENT**  
*in Youngstorget and Stortorget on Tuesdays and Saturdays.*  
*The bars show the social intent presented in percent in the interval 5-30%*

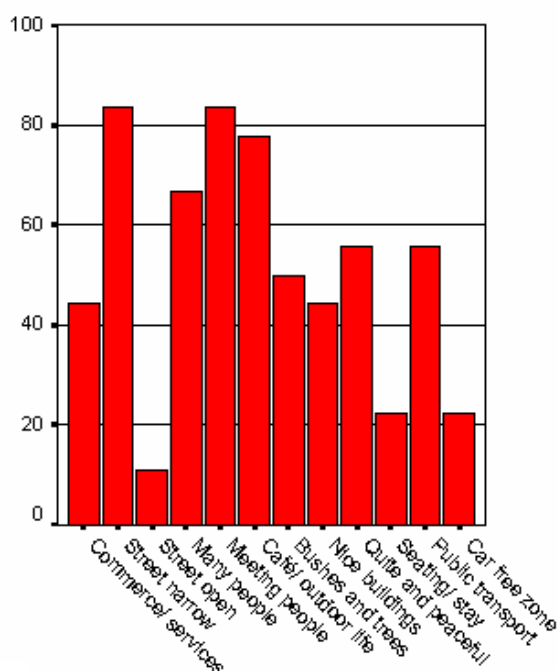
**The street as an extended road notion**

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

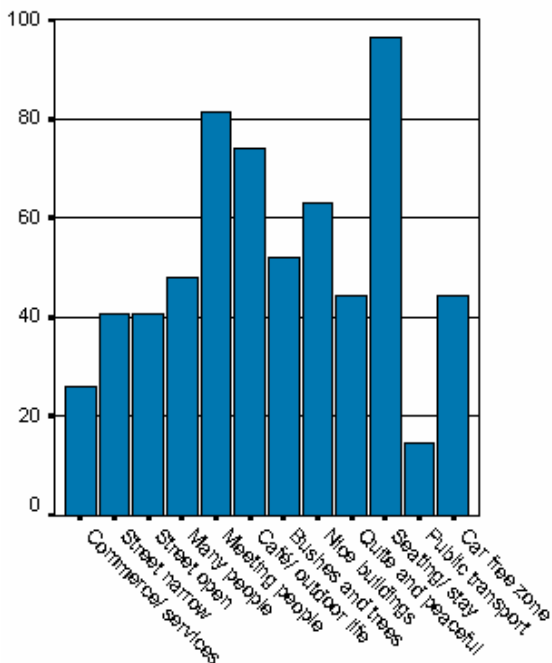
**B: Social factors**



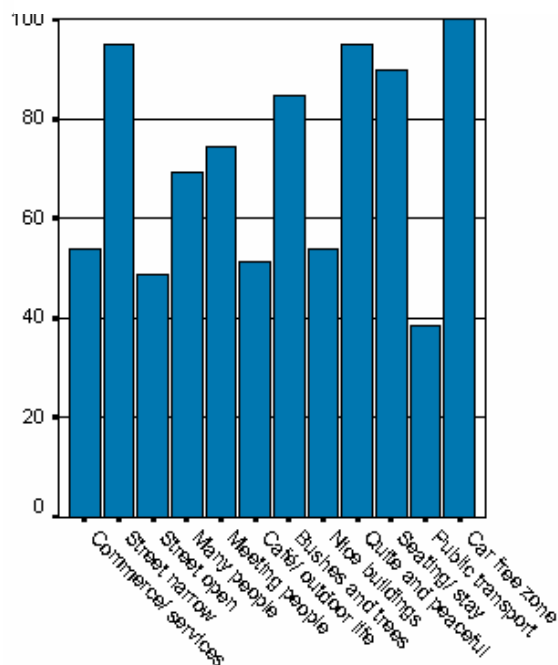
**Table 7.2:**  
**SOCIAL FACTORS**  
for **Youngstorget** on **Saturdays**.  
The bars show percent values within the interval 0-100%



**Table 7.3:**  
**SOCIAL FACTORS**  
for **Youngstorget** on **Tuesdays**.  
The bars show percent values within the interval 0-100%



**Table 7.4:**  
**SOCIAL FACTORS**  
for **Stortorvet** on **Saturdays**.  
The bars show percent values within the interval 0-100%

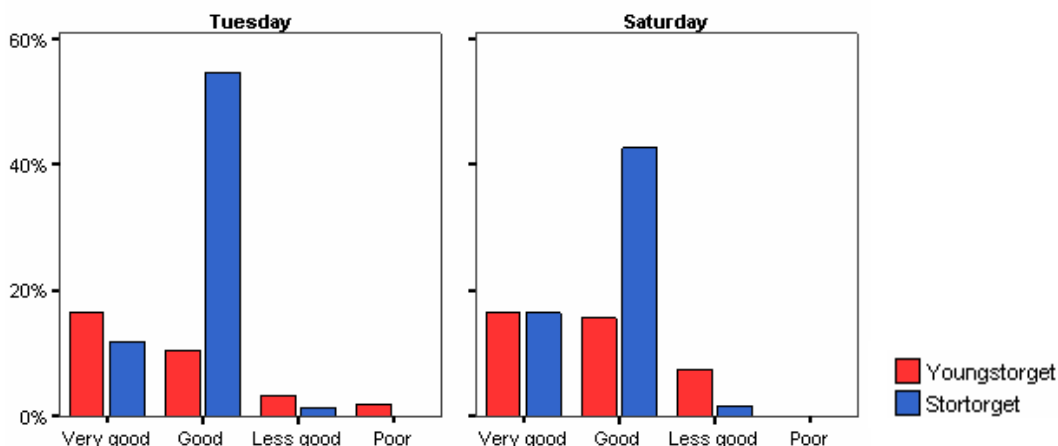


**Table 7.5:**  
**SOCIAL FACTORS**  
for **Stortorvet** on **Tuesdays**.  
The bars show percent values within the interval 0-100%

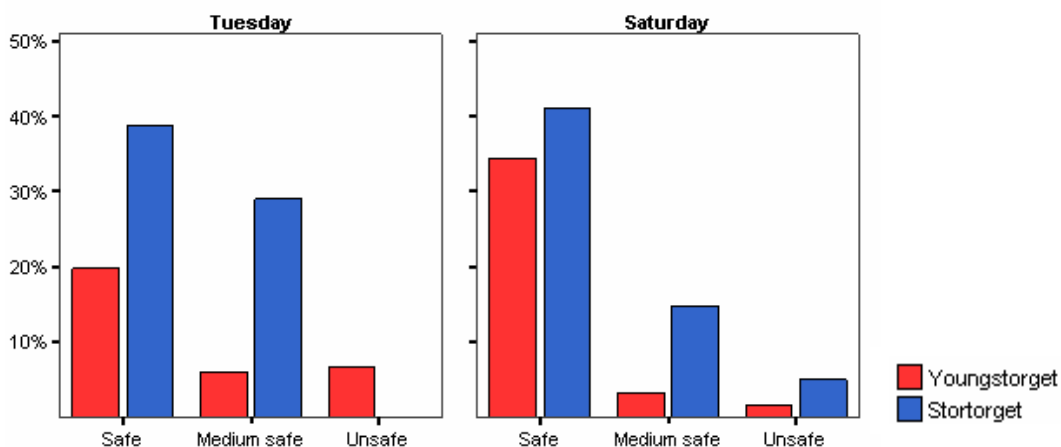
**The street as an extended road notion**

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

**C: Social comfort**



**Table 7.6:**  
**WELL-BEING**  
in *Youngstorget* and *Stortorget* on **Tuesdays** and **Saturdays**.  
The bars show the social frequency presented in percent in the interval 0-60%.

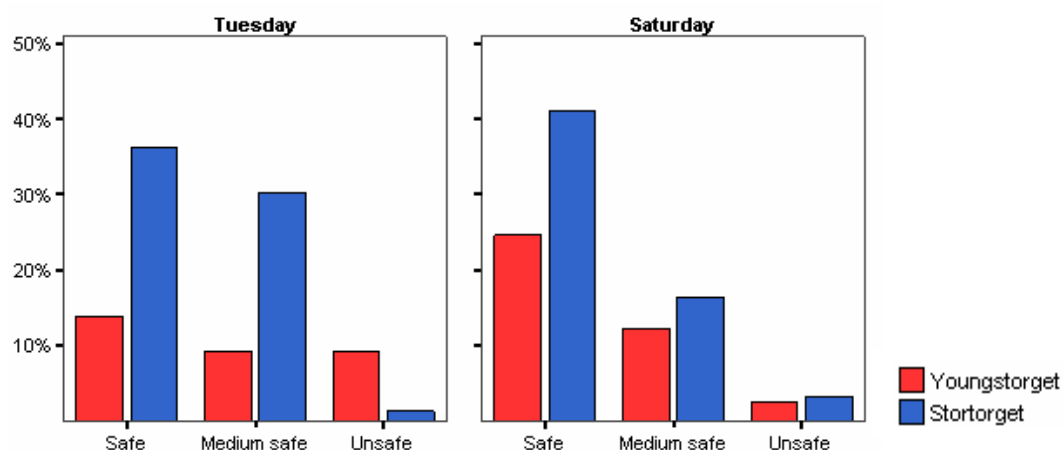


**Table 7.7:**  
**SAFETY TRAFFIC**  
in *Youngstorget* and *Stortorget* on **Tuesdays** and **Saturdays**.  
The bars show the social frequency presented in percent in the interval 0-50%.



**The street as an extended road notion**

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

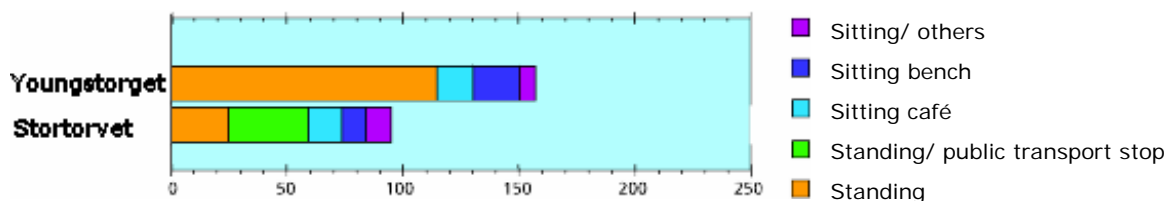


**Table 7.8:**  
**SAFETY CRIME/ VIOLENCE**  
*in Youngstorvet and Stortorget on Tuesdays and Saturdays.*  
*The bars show the social frequency presented in percent in the interval 0-50%.*

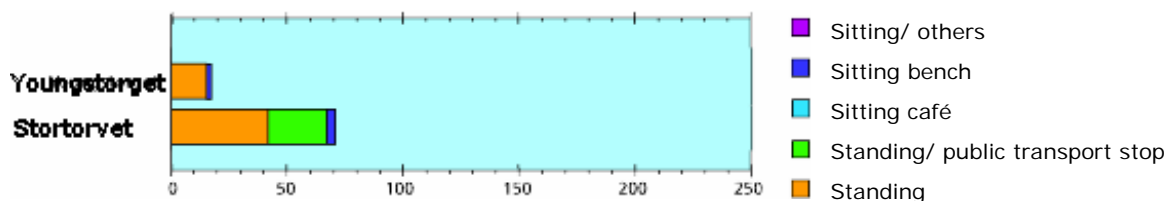
**The street as an extended road notion**

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

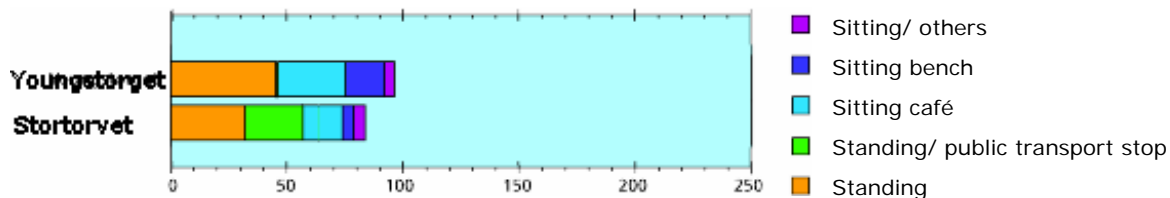
**D: Social activity**



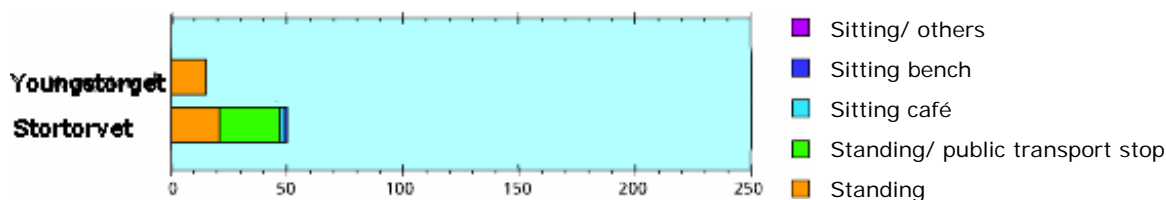
**Table 7.9:**  
**SOCIAL ACTIVITY**  
in Youngstorget and Stortorvet, registered in summer Saturdays from 10 to 17.



**Table 7.10:**  
**SOCIAL ACTIVITY**  
in Youngstorget and Stortorvet, registered in winter Saturdays from 10 to 17.



**Table 7.11:**  
**SOCIAL ACTIVITY**  
in Youngstorget and Stortorvet, registered in summer Tuesdays from 10 to 17.

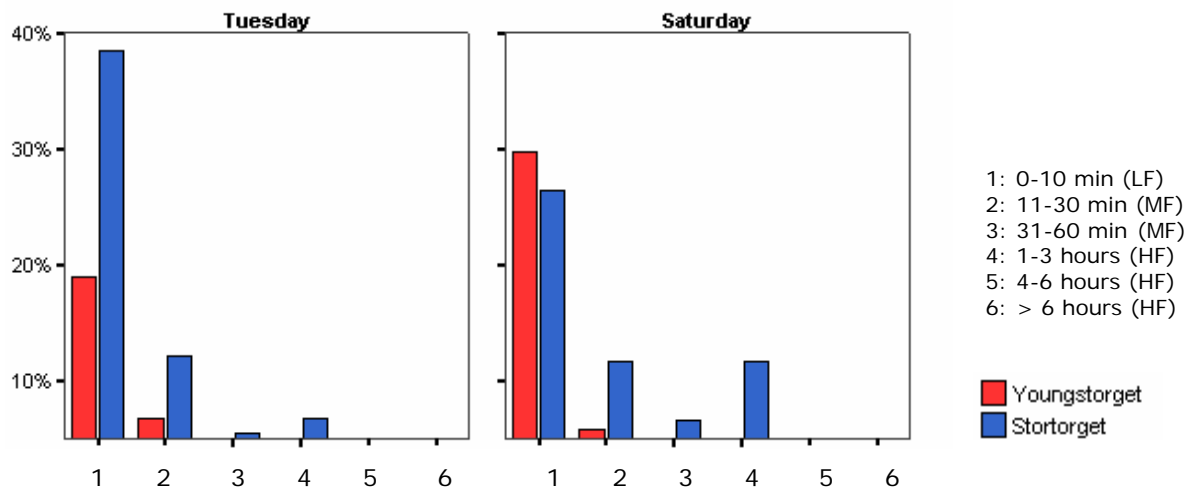


**Table 7.12:**  
**SOCIAL ACTIVITY**  
in Youngstorget and Stortorvet, registered in winter Tuesdays from 10 to 17.

**The street as an extended road notion**

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

**E: Social Duration**



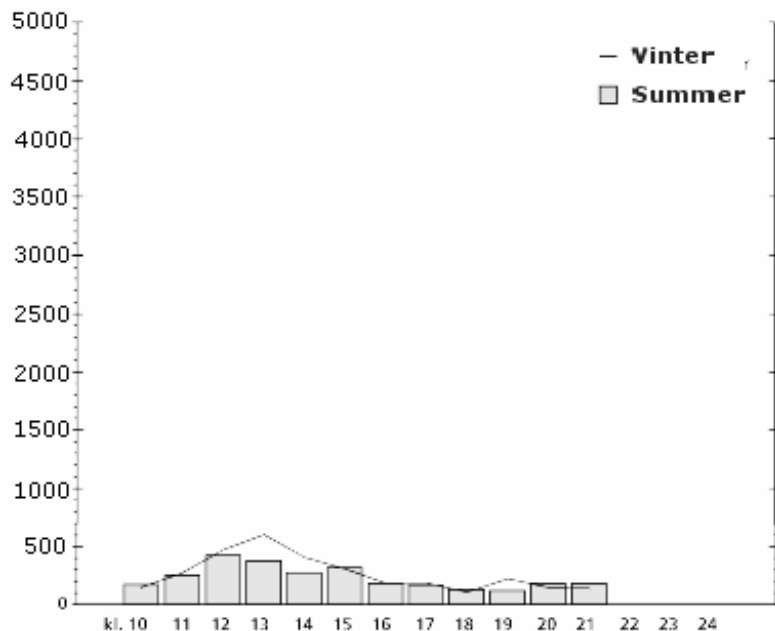
**Table 7.13:**  
**SOCIAL DURATION**  
 in *Youngstorget* and *Stortorget* on  
*Tuesdays* and *Saturdays*.

*The bars show the social duration presented in percent in the interval 5-40%*

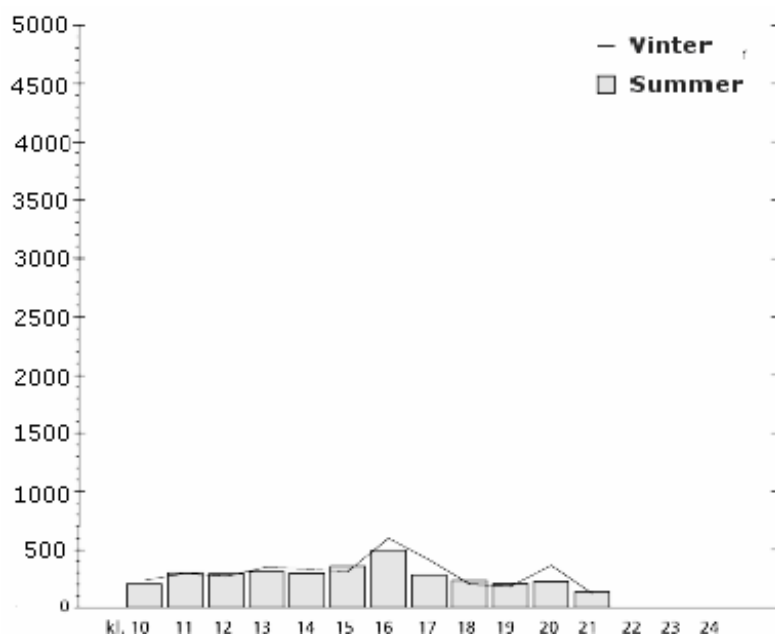
**The street as an extended road notion**

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

**F: Pedestrian Intensity**



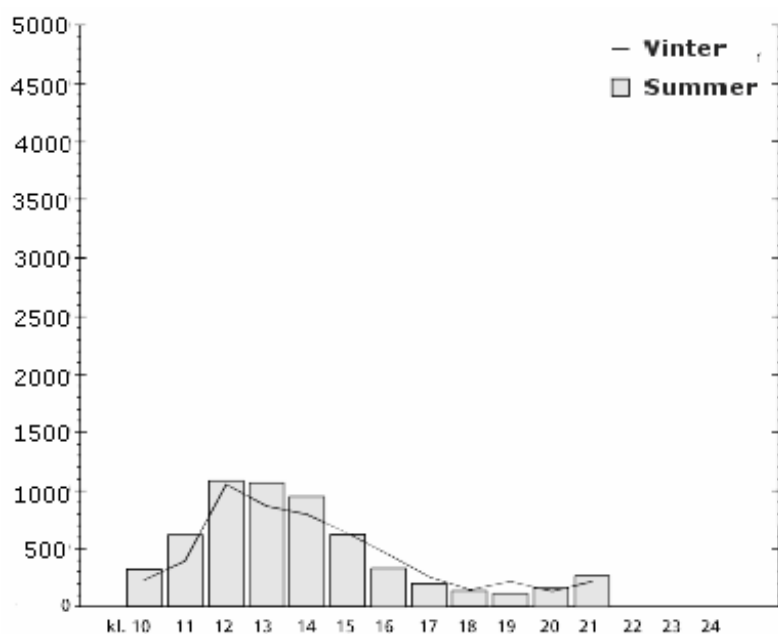
**Table 7.14:**  
**PEDESTRIAN INTENSITY**  
*in Youngstorget per hour on*  
**Saturdays**



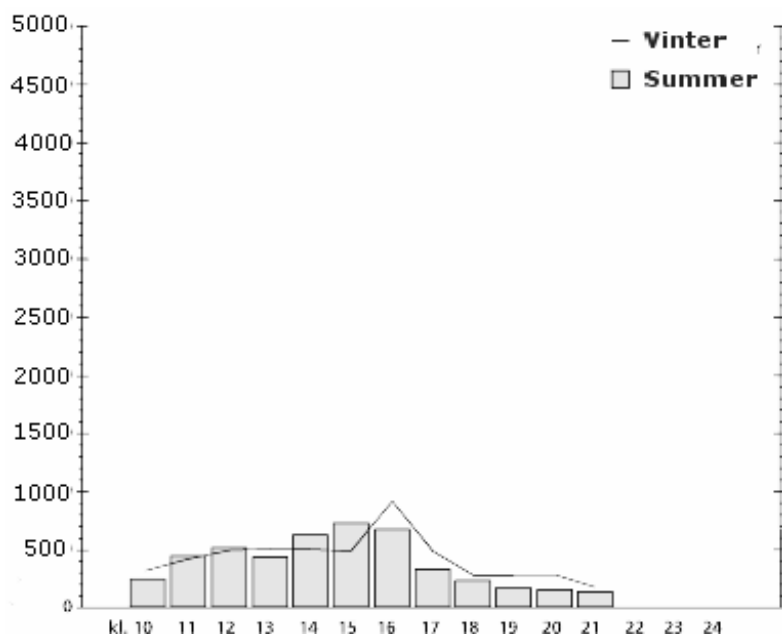
**Table 7.15:**  
**PEDESTRIAN INTENSITY**  
*in Youngstorget per hour on*  
**Tuesdays**

**The street as an extended road notion**

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)



**Table 7.16:**  
**PEDESTRIAN INTENSITY**  
*in Stortorvet per hour on*  
**Saturdays**



**Table 7.17:**  
**PEDESTRIAN INTENSITY**  
*in Stortorvet per hour on*  
**Tuesdays**

### *The street as an extended road notion*

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

## 7.2.2 Oslo: Torggata / Storgata

Both Torggata and Storgata have a long history once being the principal commercial streets of Oslo during the period 1950-1980 (approx.). Since then the core of the city has moved westward depriving the two streets of their commercial importance. Today the part of Torggata being included in the study has been converted into pedestrian zone while the multifunctional Storgata appears shabby, derelict but not without social significant. With the objective to compare two neighboring streets with dissimilar functions although with certain social activities, Torggata and Storgata appear to be a perfect selection.



**Figure 7.10**

Map of the area surrounding Torggata and Storgata. The two streets are indicated in yellow



### ***The street as an extended road notion***

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

## **Social arena: *Torggata***

- *pedestrian street:*

Torggata between Youngstorget and Stortorget used to be an important shopping street in Oslo until the 1980s although suffering from heavy car traffic. During the last half of this decade, the area was distressed by violence and ugly crime accidents, and the County Council decided to convert this part of Torggata into a pedestrian street in the early 1990s. However, its doubtful reputation continued after the opening with a series of shop closures. After a long adaptation period, it is now blooming, although with a visually appears that does not invite any outdoor social activity.



**Figure 7.11:**  
*Map of Torggata within  
the study-area*

As emphasized by the Oslo report, Torggata is distinctly divided into two: the pedestrian part between Stortovet and Youngstorget (which has been registered) and the further continuation northward to end in Haussmanns gate. Both parts are equally busy, although the latter part is open for car traffic making it highly chaotic.

### ***The street as an extended road notion***

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

## **Social arena: Storgata**

- *street/ shopping center:*

Storgata has been called the Karl Johans gate of “Østkanten”<sup>C11</sup>. This used to be the main shopping street in Oslo specializing in clothing. The main ready-made clothing stores in Oslo used to be located here. Unfortunately the street has lost its status here. However, despite an apparent need of renewal, it has shown a surprising ability of survival during the two last decades, probably due to the urban renewal of the adjacent Grønland area.



**Figure 7.12:**  
*Map of Storgata  
within the study area*

As the Oslo report points out, Storgata is the traditional main street of the area, with a unique commercial history. Due to the conversion of Torggata into a pedestrian street, scattered commercial attractions and the presence of fences keeping pedestrians divided from the tram and restricting their accessibility to cross the street, the

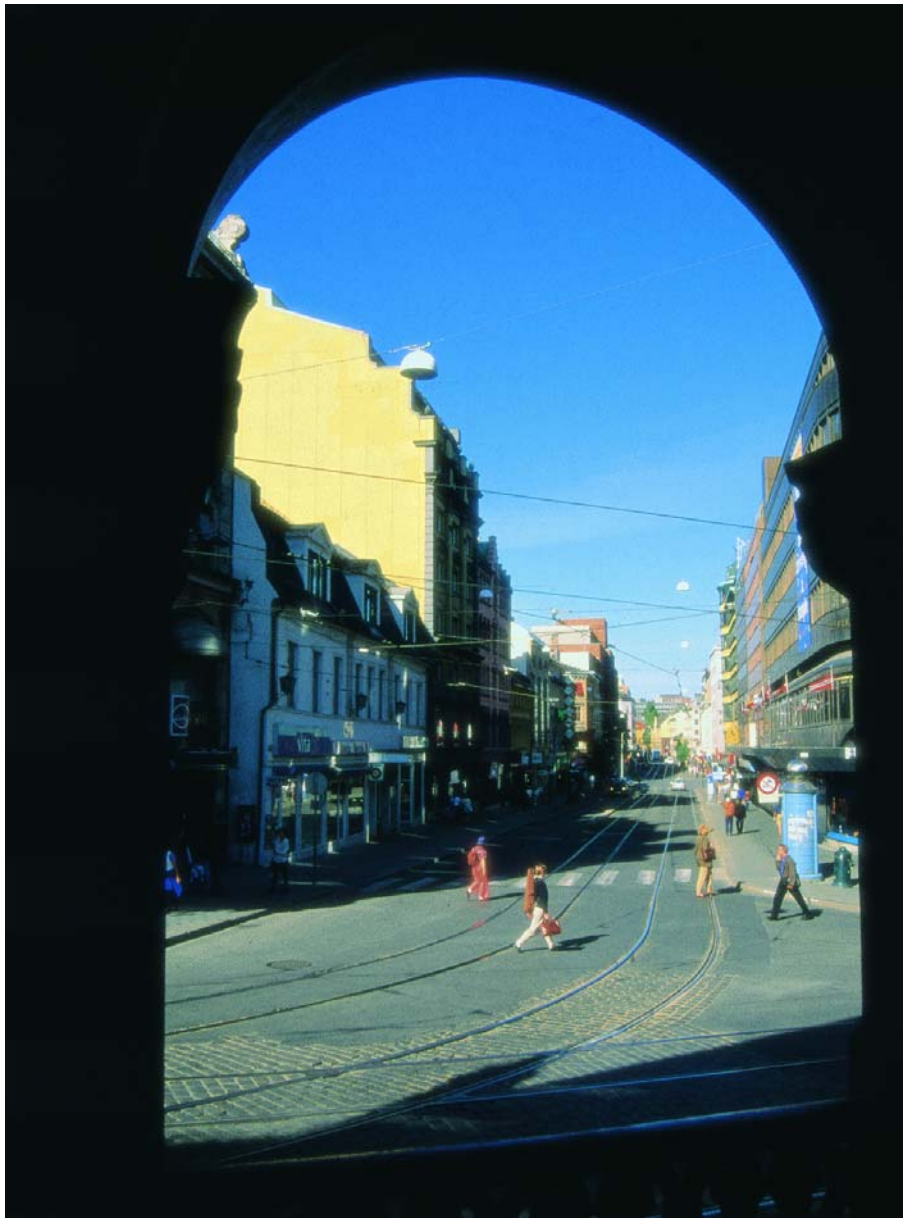
<sup>C11</sup> “Østkanten” is a term for the east part of Oslo, generally being described as the working class area.

***The street as an extended road notion***

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

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commercial importance of Storgata has been severely reduced from a commercial midpoint of Oslo into a declining insignificant public transport artery. Its traffical significance has also faded as Biskop Gunnerus gate has been established as the main connection to the main transport system. Consequently, Storgata is left behind as a street without individual significance, appearing distant without the intimate quality of Torggata, due to substantial width and large building blocks.

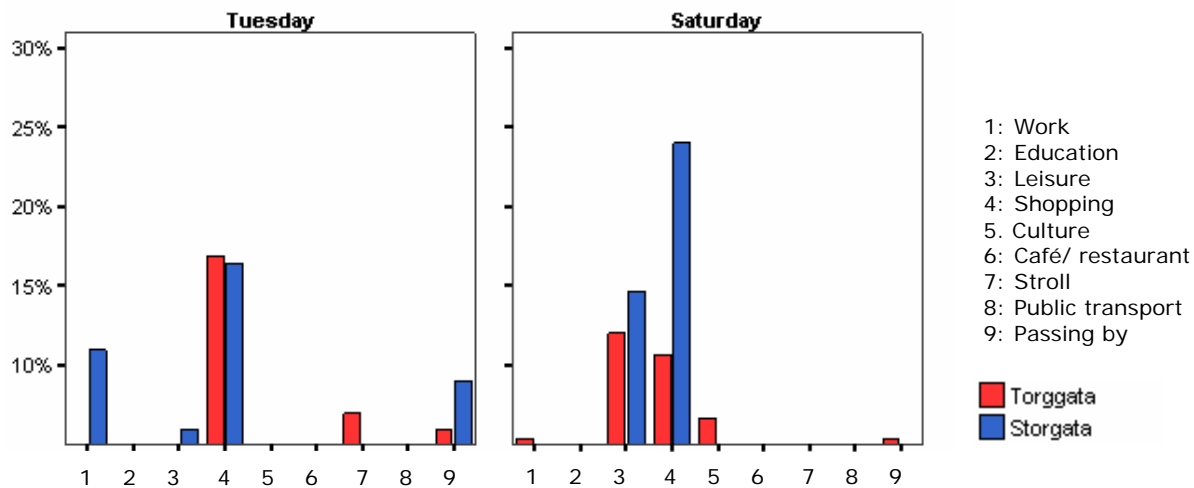


***Figure 7.13:***  
*Storgata, a main route for public transportation and a shopping street for the locals.*

**The street as an extended road notion**

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

**A: Social intent**

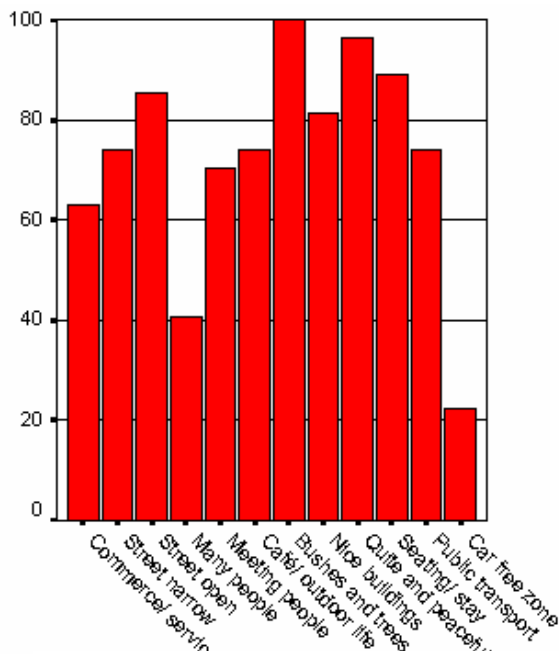


**Table 7.18:**  
**SOCIAL INTENT**  
 in **Storgata** and **Torgata** on **Tuesdays** and **Saturdays**.  
 The bars show mean values of social intent presented in percent in the interval 5-30%

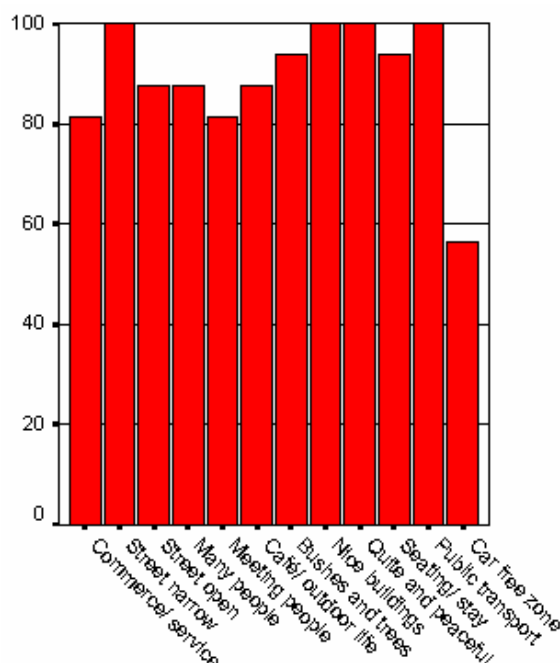
**The street as an extended road notion**

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

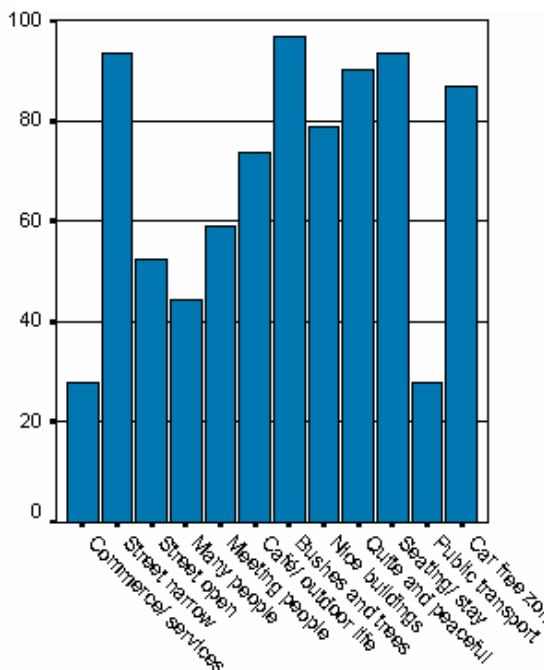
**B: Social factors**



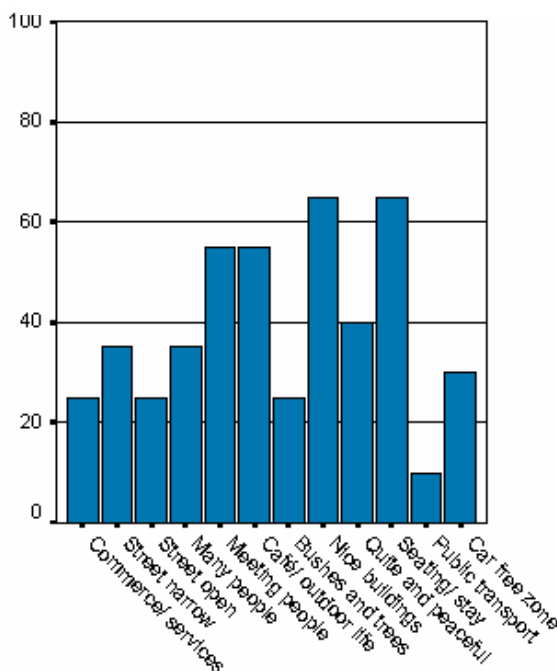
**Table 7.19:**  
**SOCIAL FACTORS**  
for **Torggata** on **Saturdays**.  
The bars show percent values within the interval 0-100%



**Table 7.20:**  
**SOCIAL FACTORS**  
for **Torggata** on **Tuesdays**.  
The bars show percent values within the interval 0-100%



**Table 7.21:**  
**SOCIAL FACTORS**  
for **Storgata** on **Saturdays**.  
The bars show percent values within the interval 0-100%

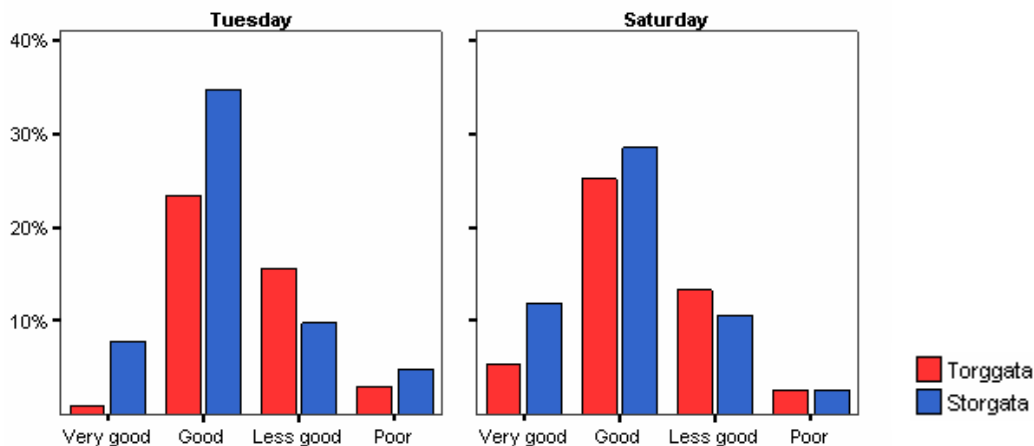


**Table 7.22:**  
**SOCIAL FACTORS**  
for **Storgata** on **Tuesdays**.  
The bars show percent values within the interval 0-100%

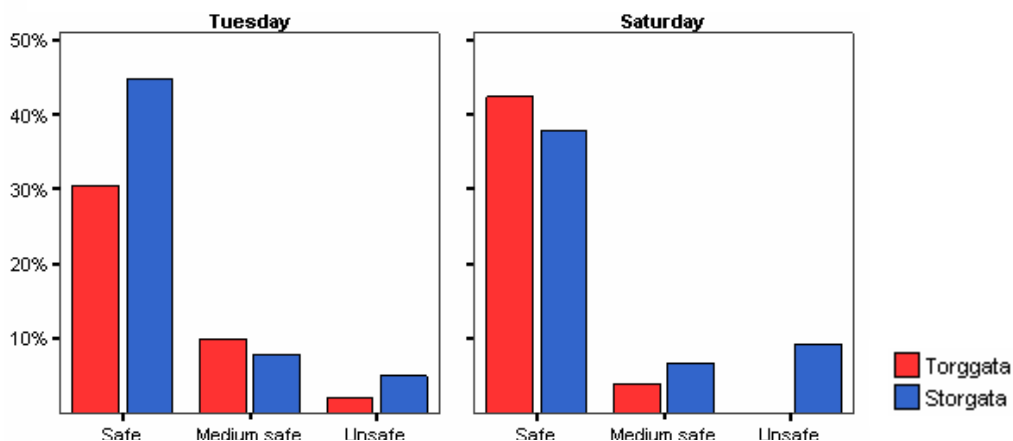
**The street as an extended road notion**

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

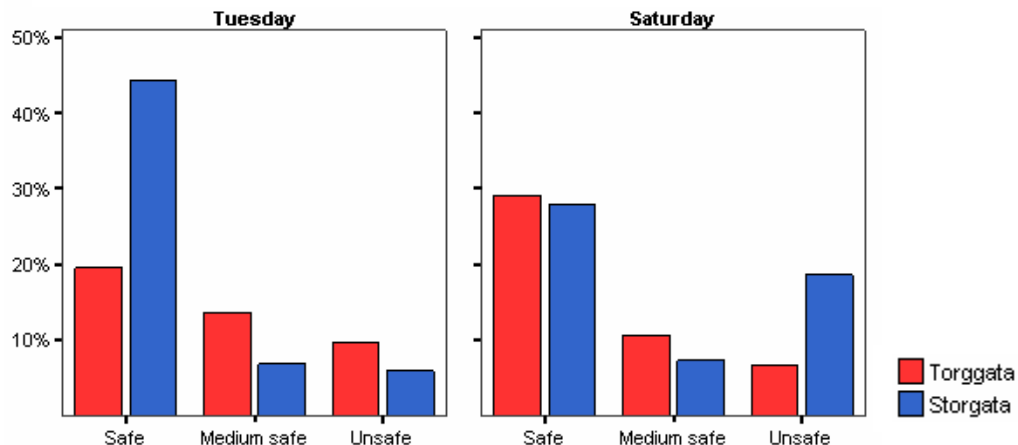
**C: Social Comfort**



**Table 7.23:**  
**WELL BEING**  
*in Torggata and Storgata on Tuesdays and Saturdays.*  
*The bars show the social frequency presented in percent in the interval 0-40%.*



**Table 7.24:**  
**SAFETY TRAFFIC**  
*in Torggata and Storgata on Tuesdays and Saturdays.*  
*The bars show the social frequency presented in percent in the interval 0-50%.*



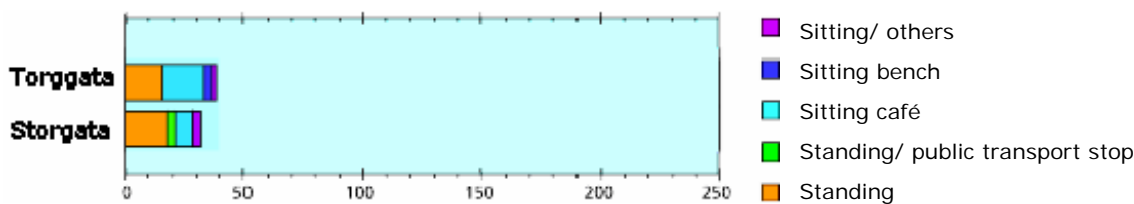
**Table 7.25:**  
**SAFETY CRIME/ VIOLENCE**  
*in Torggata and Storgata on Tuesdays and Saturdays.*  
*The bars show the social frequency presented in percent in the interval 0-50%.*



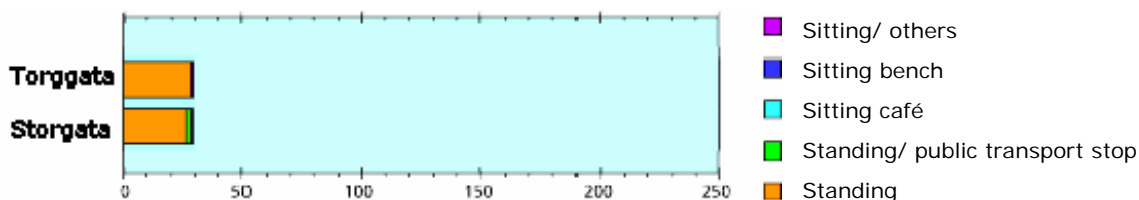
**The street as an extended road notion**

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

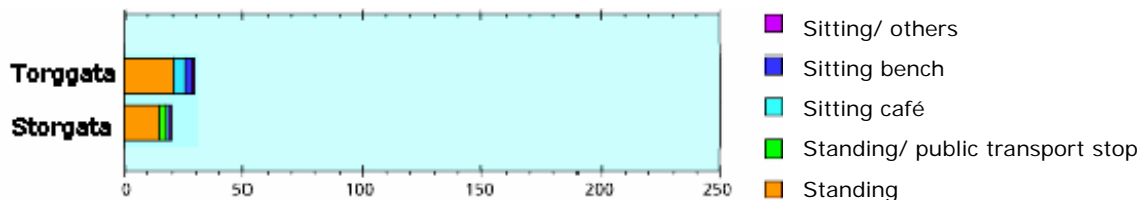
**D: Social activity**



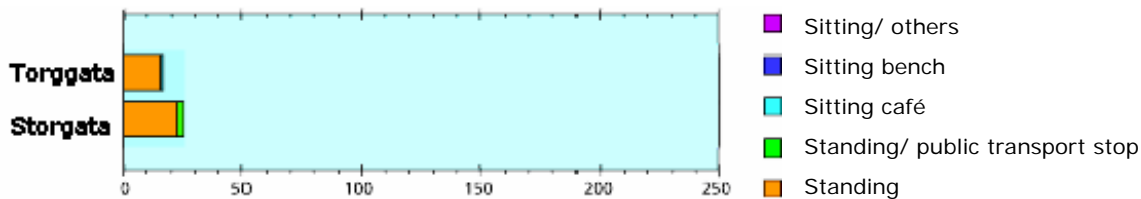
**Table 7.26:**  
**Social activity**  
in Torggata and Storgata, registered in **summer Saturdays** from 10 to 17.



**Table 7.27:**  
**SOCIAL ACTIVITY**  
in Torggata and Storgata, registered in **winter Saturdays** from 10 to 17.



**Table 7.28:**  
**SOCIAL ACTIVITY**  
in Torggata and Storgata, registered in **summer Tuesdays** from 10 to 17.

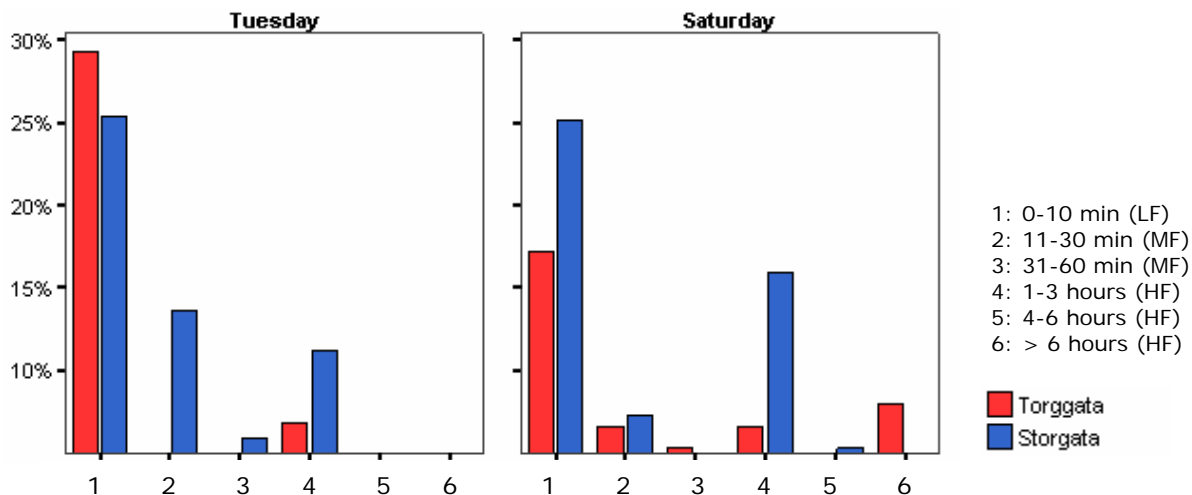


**Table 7.29:**  
**SOCIAL ACTIVITY**  
in Torggata and Storgata, registered in **winter Tuesdays** from 10 to 17.

**The street as an extended road notion**

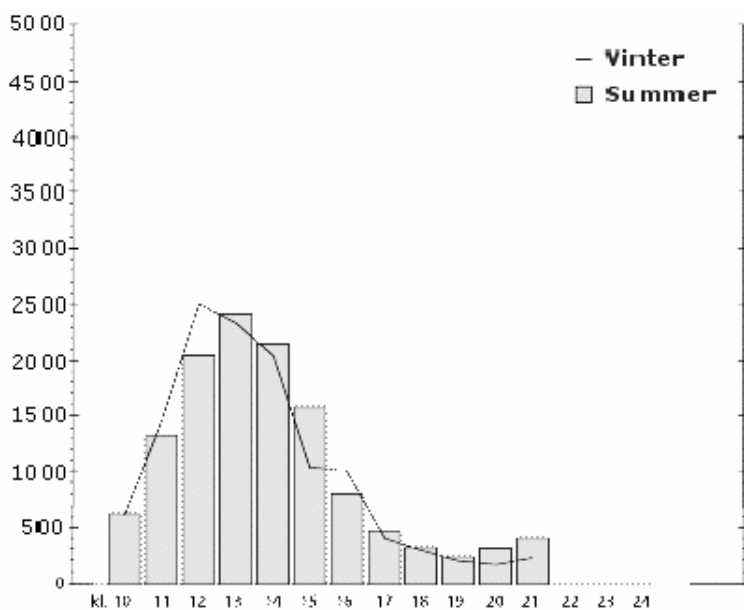
Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

**E: Social Duration**



**Table 7.30:**  
**SOCIAL DURATION**  
*in Torggata and Storgata on Tuesdays and Saturdays.*  
*The bars show mean values of social duration presented in percent in the interval 5-30%.*

**F: Pedestrian Intensity**

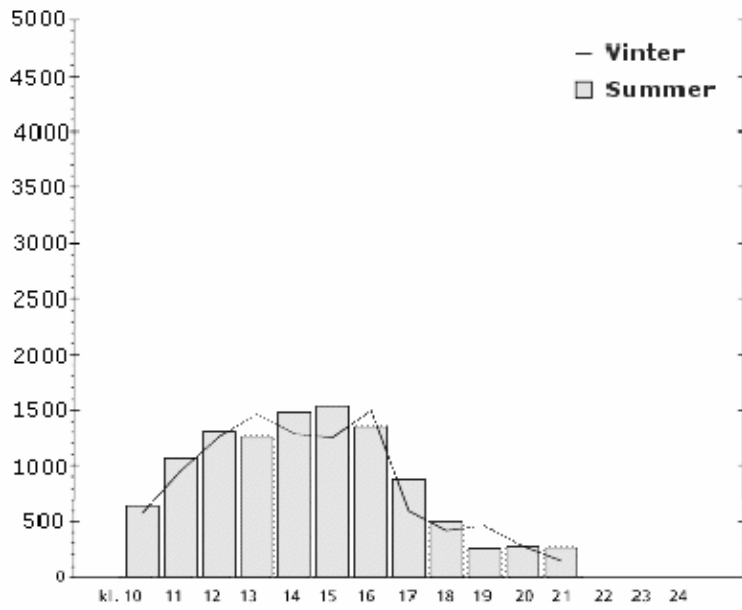


**Table 7.31:**  
**PEDESTRIAN INTENSITY**  
*in Storgata per hour on Saturdays*

**The street as an extended road notion**

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

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**Table 7.32:**  
**PEDESTRIAN INTENSITY**  
*in Storgata per hour on*  
**Tuesdays**

### *The street as an extended road notion*

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

## 7.2.3 Trondheim: Olav Tryggvasons gate / Fjordgata

Olav Tryggvasons gate and Fjordgata are adjacent streets situated in Midtbyen, the geographical city center of Trondheim. They are parallel and both multifunctional comprising the approximate same level of motorized traffic (12 000 AADT and 13 000 AADT respectively), arenas for a certain amount of social activity and a high level of commercial offers. Despite the similarities between the two, the street use seems to differ making the two streets ideal as objects of comparison.



**Figure 7.14:**

Olav Tryggvasons gate (middle) and Fjordgata (top right) with Ravnkloa is situated in the north part of Midtbyen, the city center of Trondheim)



**The street as an extended road notion**

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

**Social arena: Olav Tryggvasons gate**

- a 310 m shopping street

Olav Tryggvasons gate is the main multifunctional shopping street in Midtbyen. The main sign of its position as a leading shopping street is the presence of major chain stores, which have frequent pedestrian activity as key criteria for establishment. However, its position is severely threatened by the apparently increasingly growth of inner city shopping centres. The good relationship between the street floor and the height of the adjacent buildings, the urban life and the blooming trade attracts city users, although there are few, if any, facilities to invite them for rest or stay.



**Figure 7.15:**  
*Map of Olav Tryggvasons gate indicated by red*

***The street as an extended road notion***

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

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**Figure 7.16:**  
*Olav Tryggvasons gate is the main shopping street in Trondheim, frequently visited but with little social activity.*

The Trondheim report summarizes its registration by characterizing Olav Tryggvasons gate as harmonious with regard to visual impression and functionality. The street is located within a typical commercial area with shops and offices and with hardly any dwellings. When it comes to services and commercial offers, the report makes the following conclusion: many shops, same commercial offers as shopping malls, presence of cinemas and concert facilities and many service offers both during day and night-time.

The accessibility in the street is, according to the Trondheim report, generally characterized by very central location, poor car accessibility, very good public transport accessibility, very good accessibility for pedestrians and good accessibility, but poor passability for cyclists.



**The street as an extended road notion**

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

**Social arena: Fjordgata including Ravnkloa**

- a 450 meter shopping street

Fjordgata has many of the same features as Olav Tryggvasons gate. However, the chain stores are not attracted to Fjordgata, probably due to its location in the outskirts of the city core and possibly due to its indefinite street space with an apparently unproportional relationship between street floor and adjacent buildings, making it less intimate than Olav Tryggvasons gate. Fjordgata is the specialist trade ground of Trondheim offering for instance maritime goods, pianos and guns. This type of trade does not catch the attention of the general city user, but is not that sensitive to movements as the chain stores. Ravnkloa (Fig 7.18), a small and popular fish market, situated at the junction Fjordgata/ Munkgata, might represent a model for such development.



**Figure 7.17:**  
Map of Fjordgata and Ravnkloa indicated in red.

***The street as an extended road notion***

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

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**Figure 7.18:**  
*Ravnkloa, a traditional fish market attracting many people seeking fish products and a convenient spot to relax.*



**Figure 7.19:**  
*Fjordgata, a street with tremendous potential as a social arena, but few, if any, seem to realize it.*

***The street as an extended road notion***

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

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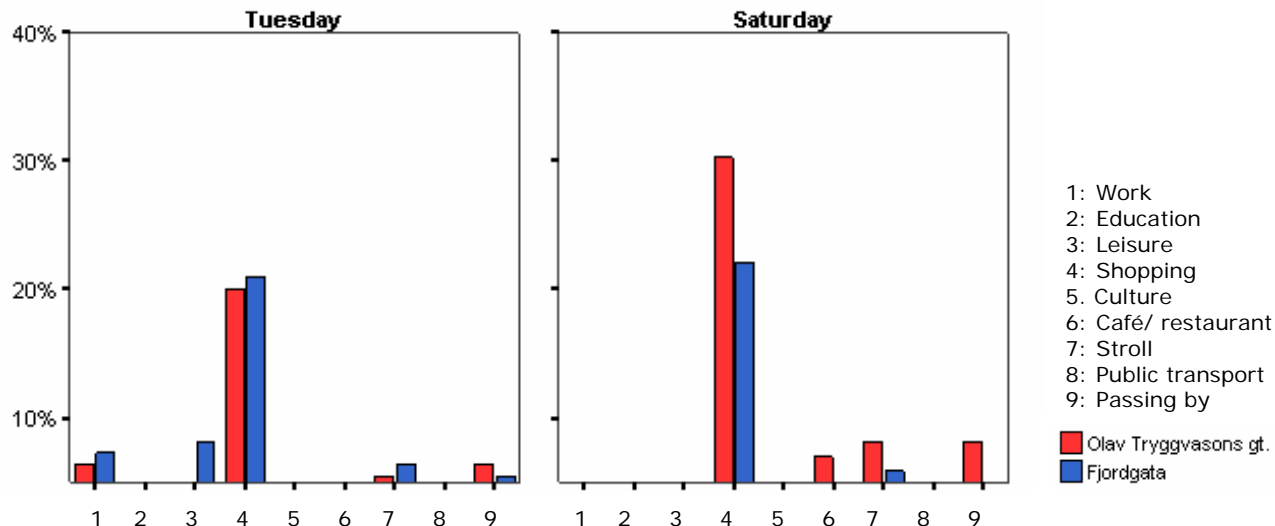
The area has few dwellings, although it is an increasing trend to settle down in this particular street to live as some of the wharf buildings recently have been converted into flats. Being parallel to Olav Tryggvasons gate within the same area, Fjordgata is also centrally located with specialized shops and offices. However, as Olav Trygvasssons gate hardly has any parking facilities, the conveniences for parking in Fjordgata are good, but some restricted. When it comes to services and commercial offers, the report makes the following conclusion: many shops, many specialized shops, presence of amusement halls, discos and night clubs and many catering establishments, pubs and cafés.



**The street as an extended road notion**

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

**A: Social Intent**



**Table 7.33:**

**SOCIAL INTENT**

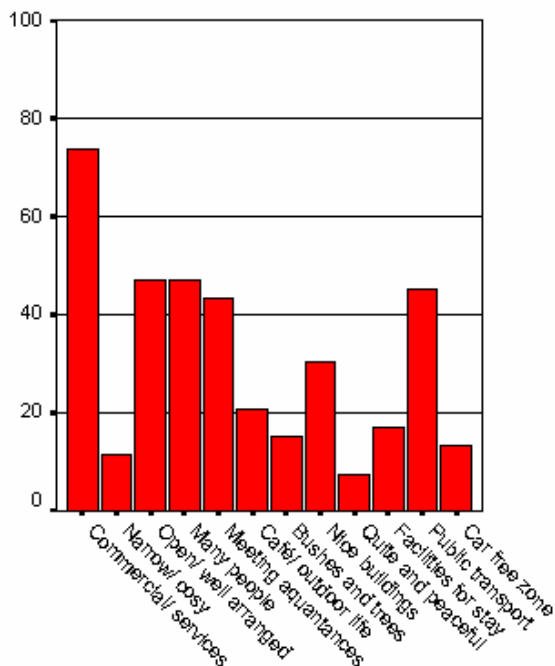
*in Olav Tryggvassons gate and Fjordgata on **Tuesdays** and **Saturdays** in August/ September.*

*The bars show the social intent presented in percent in the interval 5-40%.*

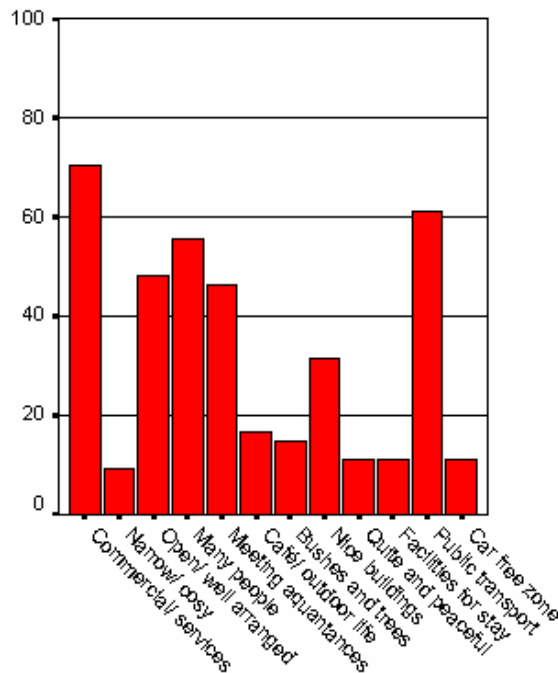
**The street as an extended road notion**

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

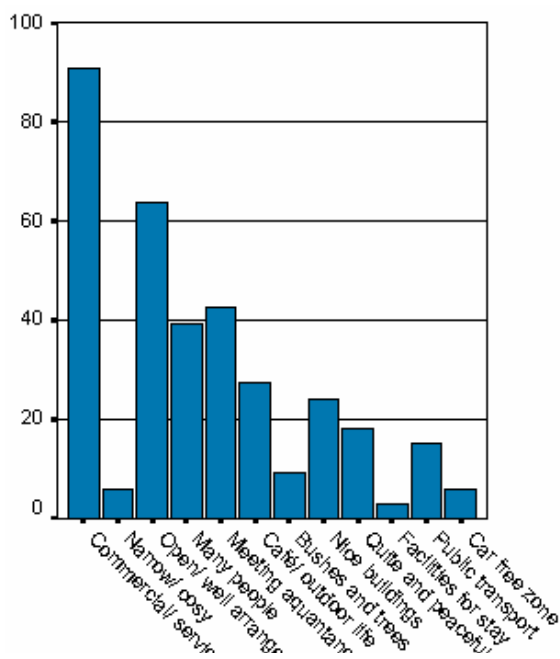
**B: Social Factors**



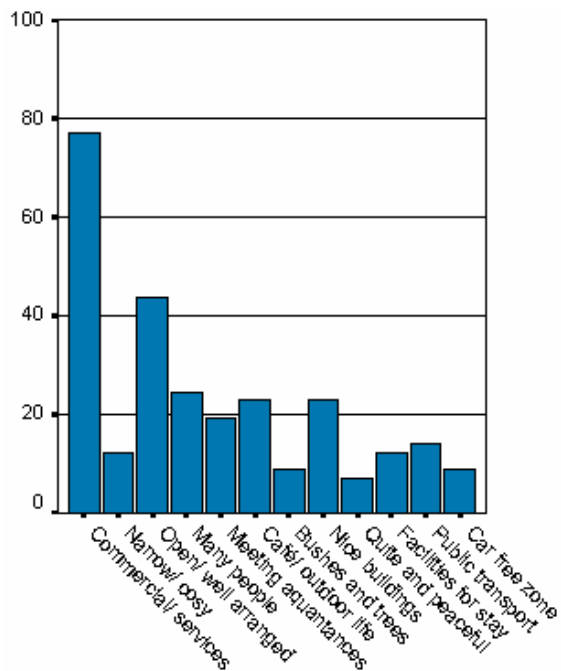
**Table 7.34:**  
**SOCIAL FACTORS**  
in *Olav Tryggvassons gate* on **Saturdays**.  
The bars show the social factors presented in percent in the interval 0-100%.



**Table 7.35:**  
**SOCIAL FACTORS**  
in *Olav Tryggvassons gate* on **Tuesdays**.  
The bars show the social factors presented in percent in the interval 0-100%.



**Table 7.36:**  
**SOCIAL FACTORS**  
in *Fjordgata* on **Saturdays**.  
The bars show the social factors presented in percent in the interval 0-100%.

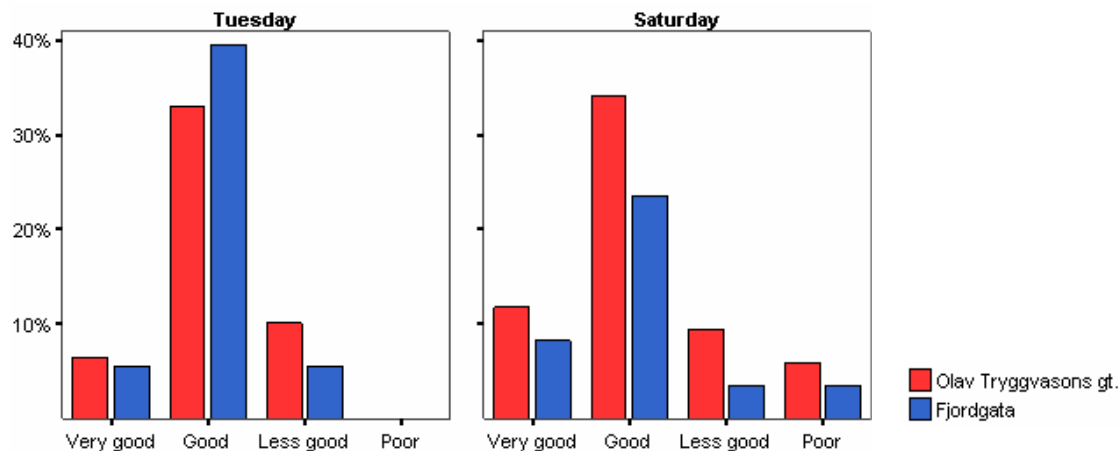


**Table 7.37:**  
**SOCIAL FACTORS**  
in *Fjordgata* on **Tuesdays**.  
The bars show the social factors presented in percent in the interval 0-100%.

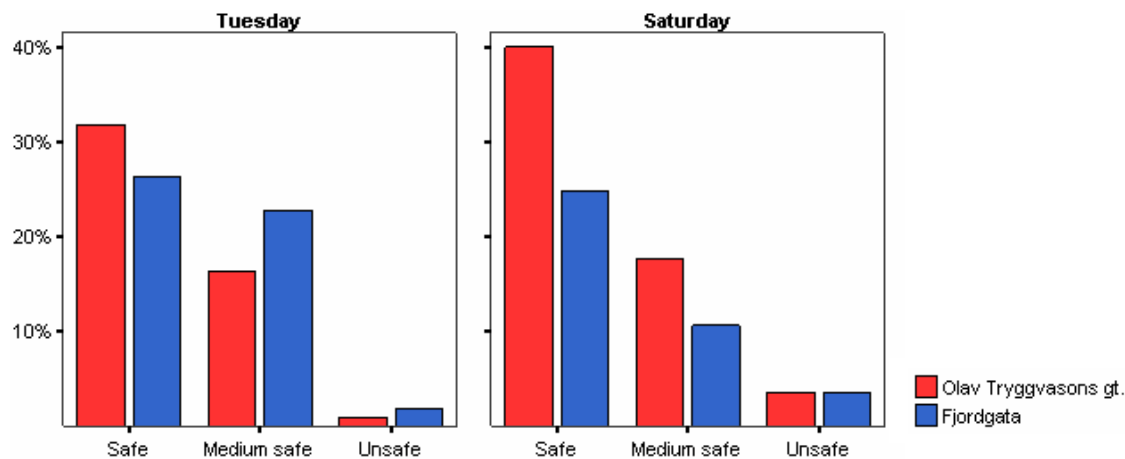
**The street as an extended road notion**

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

**C: Social Comfort**



**Table 7.38: WELL BEING**  
 in Olav Tryggvassons gate and Fjordgata on **Tuesdays** and **Saturdays**.  
 The bars show the social frequency presented in percent in the interval 0-40%.

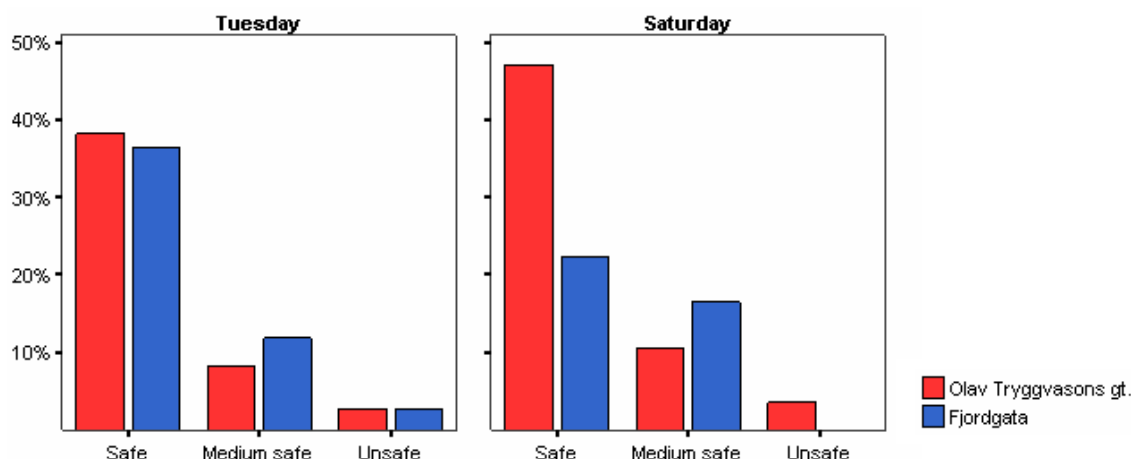


**Table 7.39: SAFETY TRAFFIC**  
 in Olav Tryggvassons gate and Fjordgata on **Tuesdays** and **Saturdays**.  
 The bars show the social frequency presented in percent in the interval 0-40%.



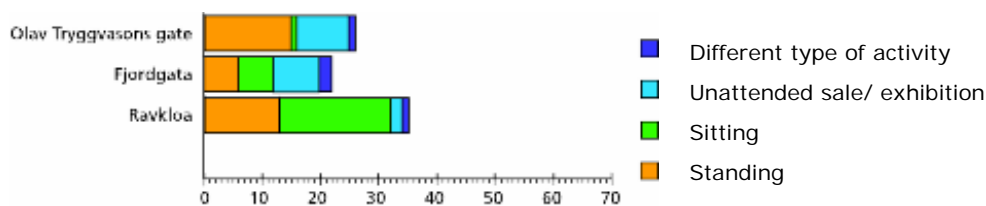
**The street as an extended road notion**

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

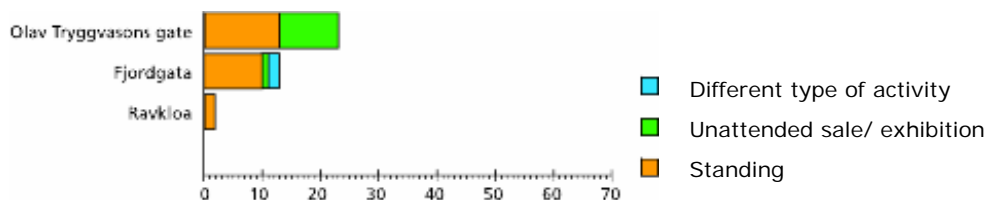


**Table 7.40: SAFETY CRIME/ VIOLENCE**  
 in Olav Tryggvassons gate and Fjordgata on **Tuesdays** and **Saturdays**.  
 The bars show the social frequency presented in percent in the interval 0-50%.

**D: Social Activity**



**Table 7.41:**  
**SOCIAL ACTIVITY**  
 Mean number of social activities in Olav Tryggvassons gate, Fjordgata and Ravnkloa (a part of Fjordgata), registered in **summer/ Saturdays** from 10 to 16; **Weekdays** from 10 to 20.

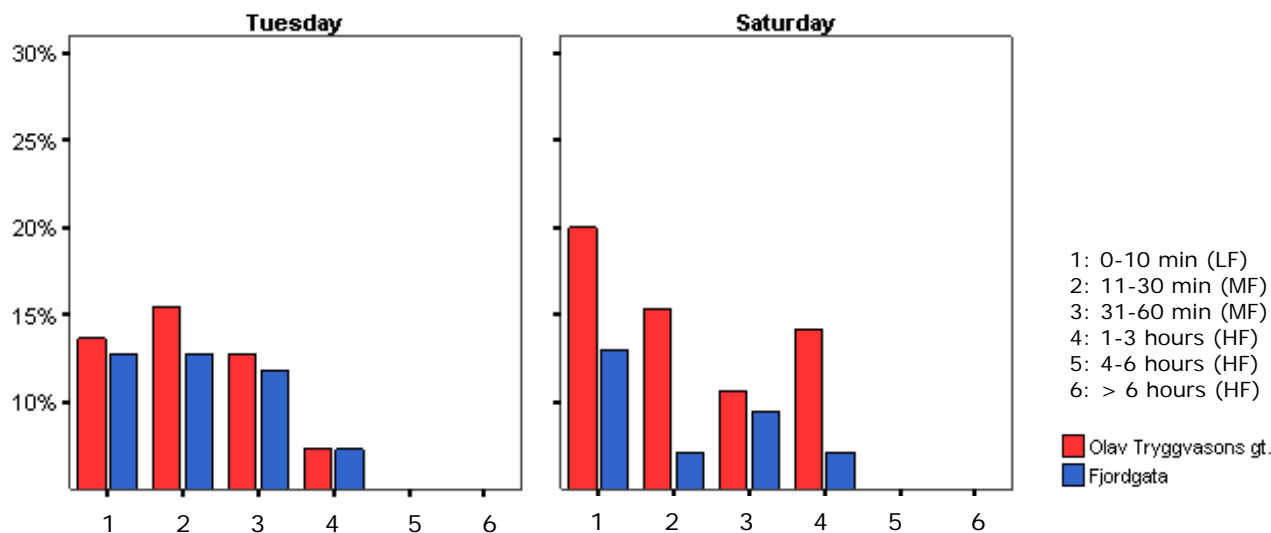


**Table 7.42:**  
**SOCIAL ACTIVITY**  
 Mean number of social activities in Olav Tryggvassons gate, Fjordgata and Ravnkloa (a part of Fjordgata), registered in **winter/ Saturdays** from 10 to 16; **Weekdays** from 10 – 20.

**The street as an extended road notion**

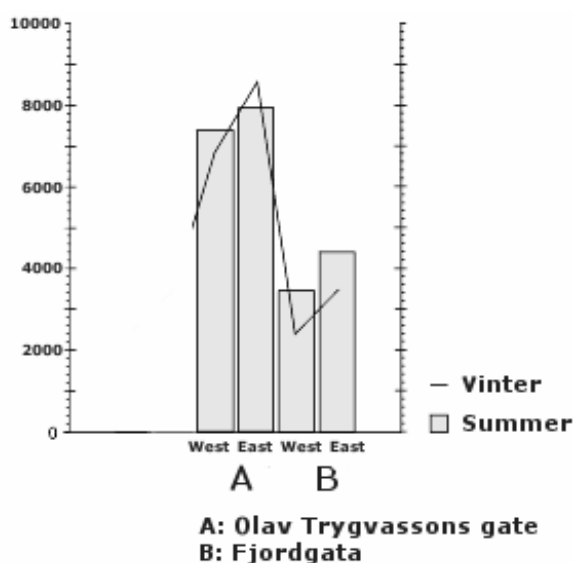
Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

**E: Social Duration**



**Table 7.43:**  
**SOCIAL DURATION**  
 in Olav Tryggvassons gate and Fjordgata on **Tuesdays** and **Saturdays** in August/ September.  
 The bars show the social duration presented in percent in the interval 5-30%.

**F: Pedestrian Intensity**

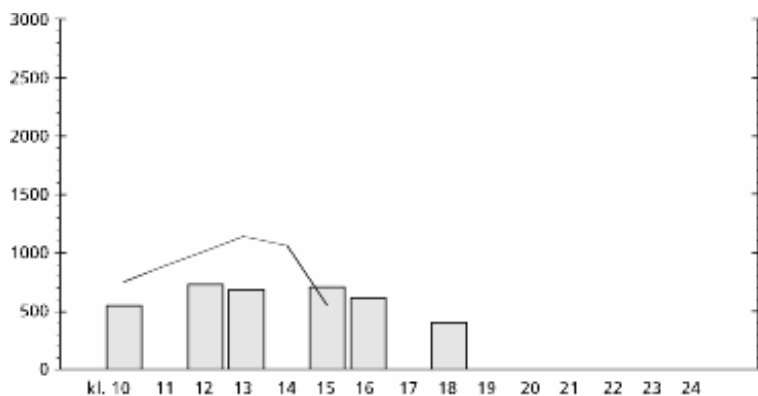


**Table 7.44:**  
**PEDESTRIAN INTENSITY**  
 in Olav Tryggvassons gate and Fjordgata.  
 The bars show the pedestrian traffic per day on three week days, estimated from six registration every 15 minutes.

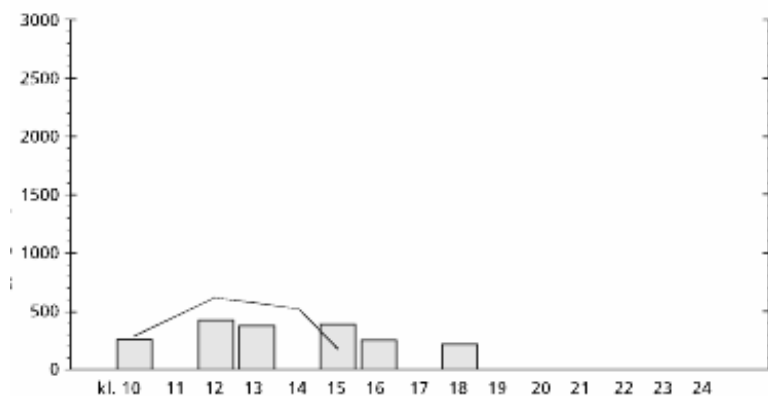
**The street as an extended road notion**

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

The pedestrian traffic is highest in Olav Tryggvassons gate with a mean traffic of **600-700** people an hour, while Fjordgata has a pedestrian traffic of **300-400** people per hour. It is worth pointing out that the east part of Olav Tryggvassons gate has a higher number of pedestrians in the winter registration, as the west part is far less used. This might partly be explained by the fact that winter-based establishments, such as cinemas, are located in the eastern part.



**Table 7.45:**  
**PEDESTRIAN INTENSITY**  
per hour in Olav Tryggvassons gate in **summer**.  
The bars showing weekdays (Tuesday) traffic and line showing Saturday traffic.



**Table 7.46:**  
**PEDESTRIAN INTENSITY**  
per hour in Fjordgata in **summer**.  
The bars showing weekdays (Tuesday) traffic and line Saturday traffic.

### *The street as an extended road notion*

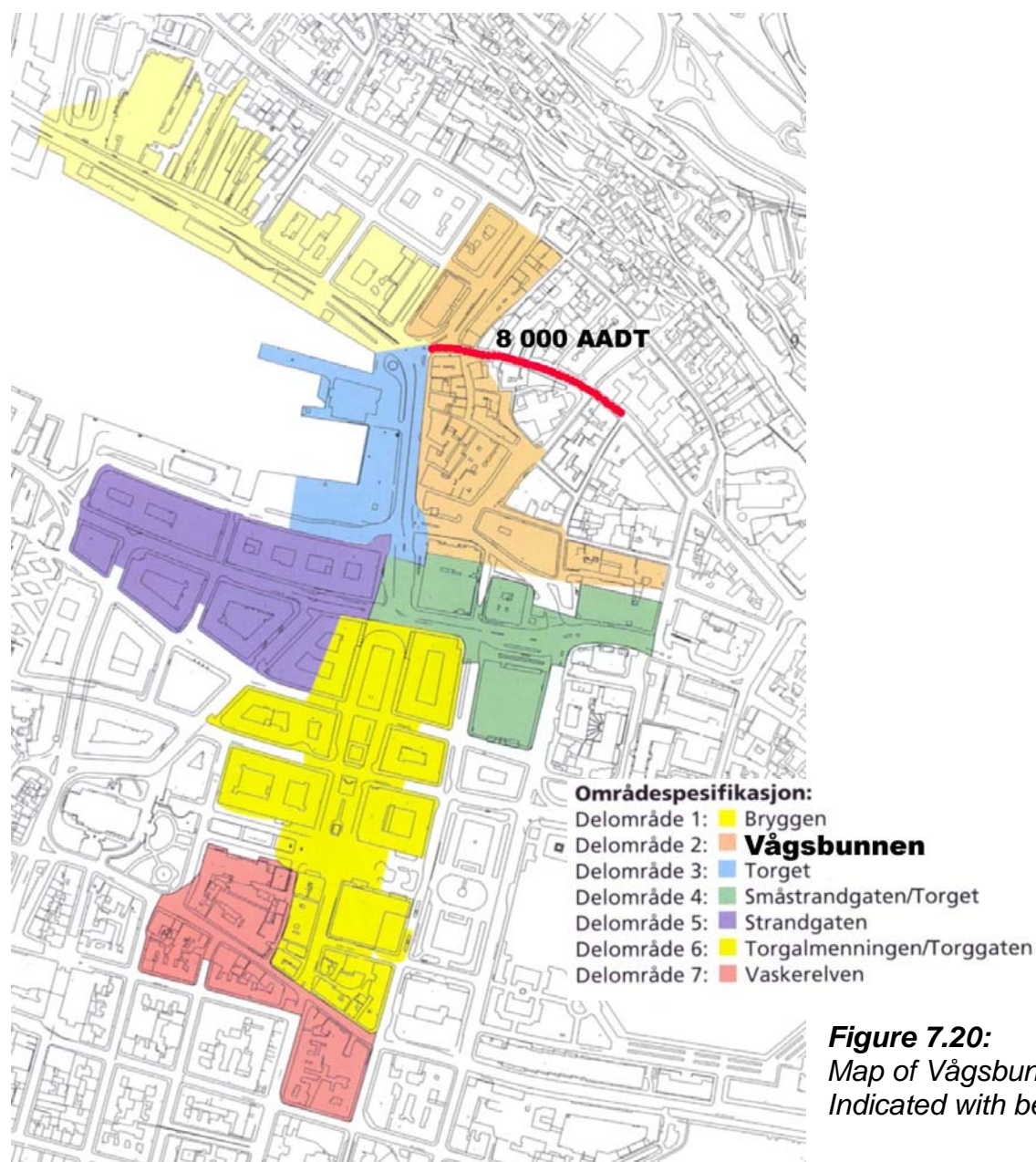
Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

## 7.2.4 Bergen: Vågsbunnen / Strandgaten

Vågsbunnen and Strandgaten are two very different types of streets architecturally and functionally besides the fact that they both are frequently visited by shoppers and tourists and represent, to a certain extent, as social arenas. Consequently it is viable to compare the two, primarily to access the appreciated factors that constitute their function as social arenas.

### Social arena: *Vågsbunnen*

- square/ street area:



**Figure 7.20:**  
Map of Vågsbunnen  
Indicated with beige.

***The street as an extended road notion***

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

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**Figure 7.21:**  
*Vågsbunnen is a picturesque part of Bergen that invites strolling and shopping.*

Vågsbunnen used to be the center of Middle Age Bergen. The square and adjacent streets, characterized by varied and vernacular architecture has no particular social significance apart from occasional shoppers. The streets in Vågsbunnen are typical for the Middle Ages, being bendy, intimate and apparently ideal for strolling.

Specialized shops characterize the commercial trade in Vågsbunnen, but there are also open street sales present. The street has good service offers, the best catering facilities and the best pedestrian accessibilities of the study areas being car free and adapted for strolling.

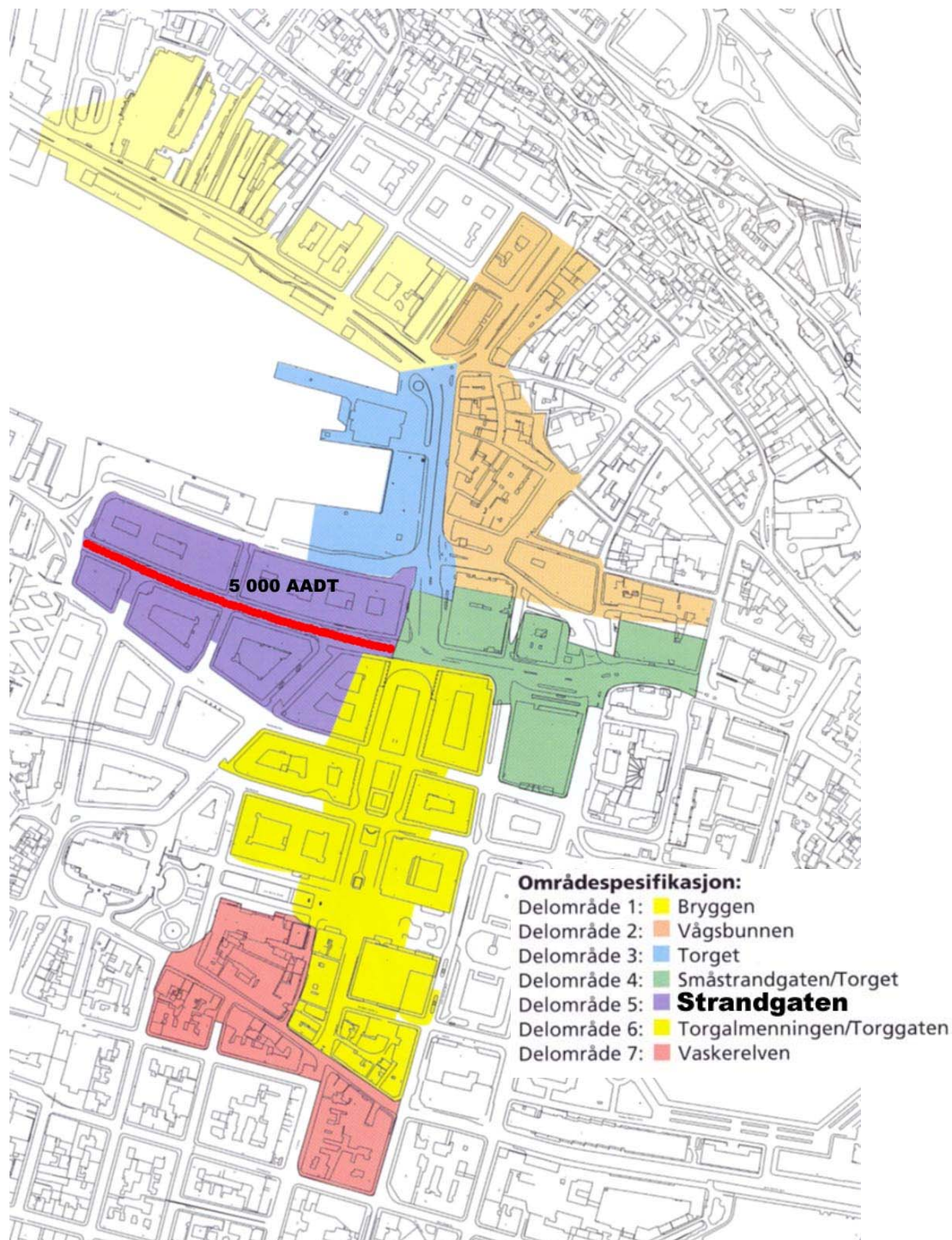


### The street as an extended road notion

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

## Social arena: Strandgaten

- shopping street:



**Figure 7.22:**  
Map of Vågsbunnen  
Indicated with beige.



***The street as an extended road notion***

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

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A similar street to Småstrandgaten but with a larger scale (although relatively narrow and intimate) and with a higher potential to such degree that the chain stores have settled in. Homogeneous classicistic architecture gives this street a distinctive character.



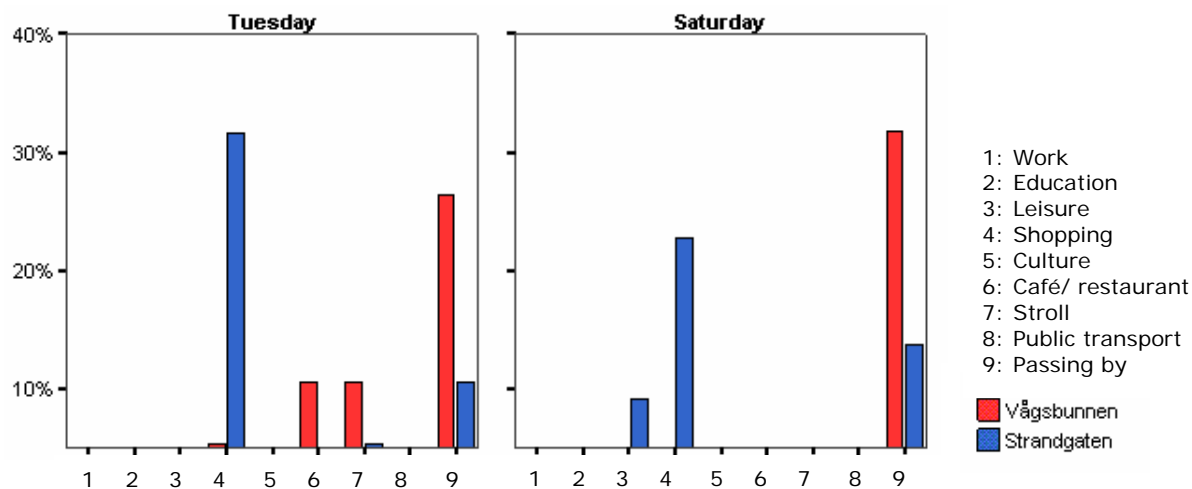
**Figure 7.23:**

*Strandgaten is the ultimate shopping street with a unique building character and a wide range of commercial offers.*

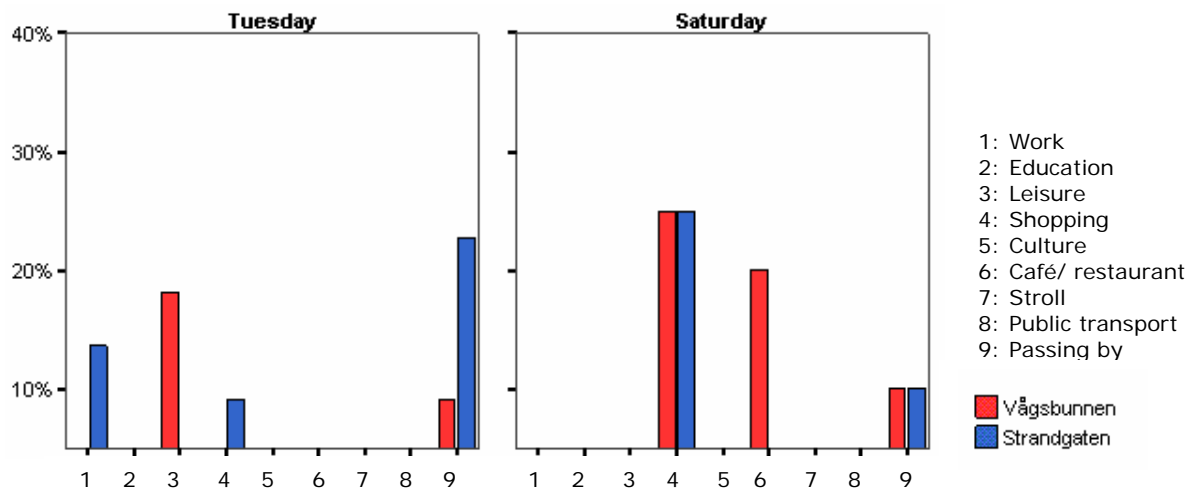
**The street as an extended road notion**

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

**A: Social Intent**



**Table 7.47: SOCIAL INTENT**  
for Vågsbunnen and Strandgaten registered on **Tuesdays** and **Saturdays** in **SUMMER**. The bars show the social intent presented in percent in the interval 5-40%.

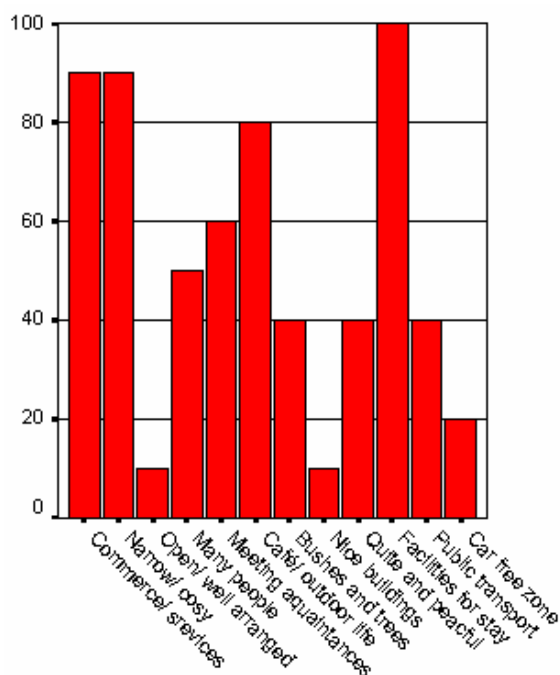


**Table 7.48: SOCIAL INTENT**  
for Vågsbunnen and Strandgaten registered on **Tuesdays** and **Saturdays** in **WINTER**. The bars show the social intent presented in percent in the interval 5-40%.

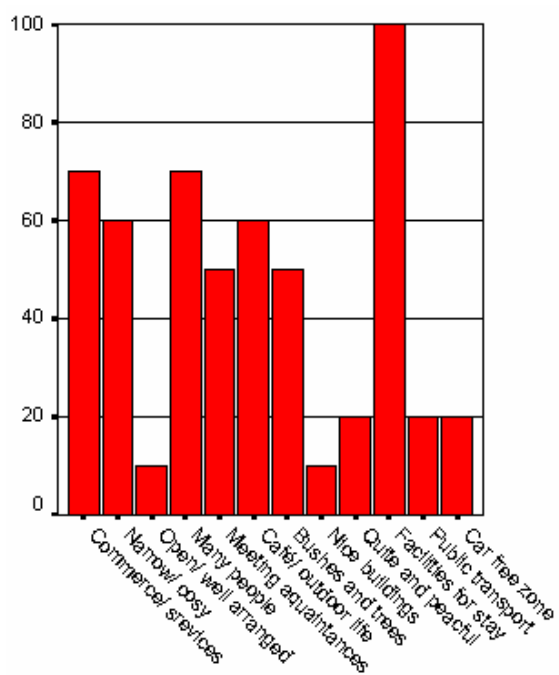
**The street as an extended road notion**

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

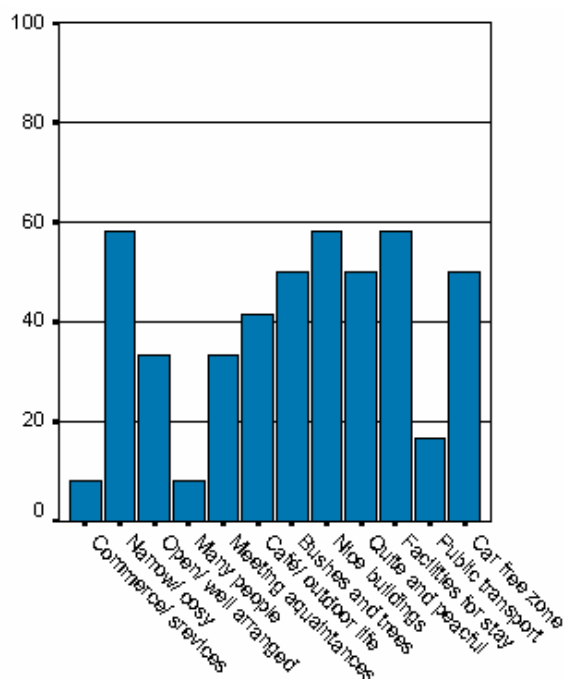
**B1: Social Factors (summer)**



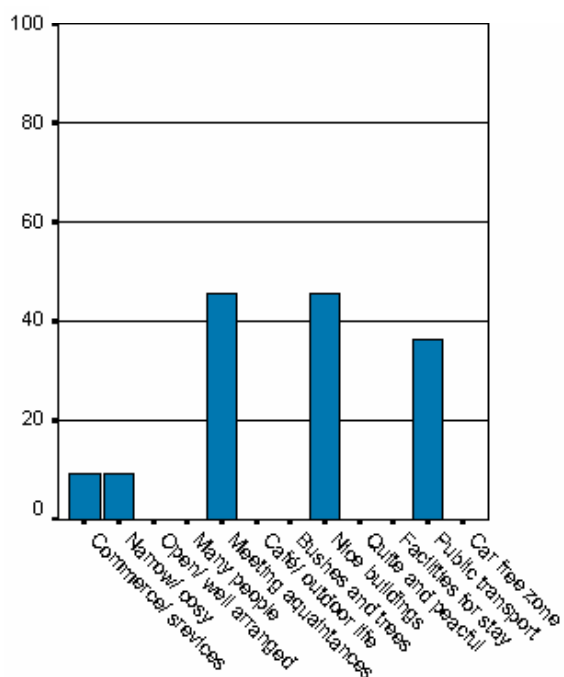
**Table 7.49: SOCIAL FACTORS in Vågsbunnen on Saturdays in summer.**  
The bars show the social factors presented in percent in the interval 0-100%.



**Table 7.50: SOCIAL FACTORS in Vågsbunnen on Tuesdays in summer.**  
The bars show the social factors presented in percent in the interval 0-100%.



**Table 7.51: SOCIAL FACTORS in Strandgaten on Saturdays in summer.**  
The bars show the social factors presented in percent in the interval 0-100%.

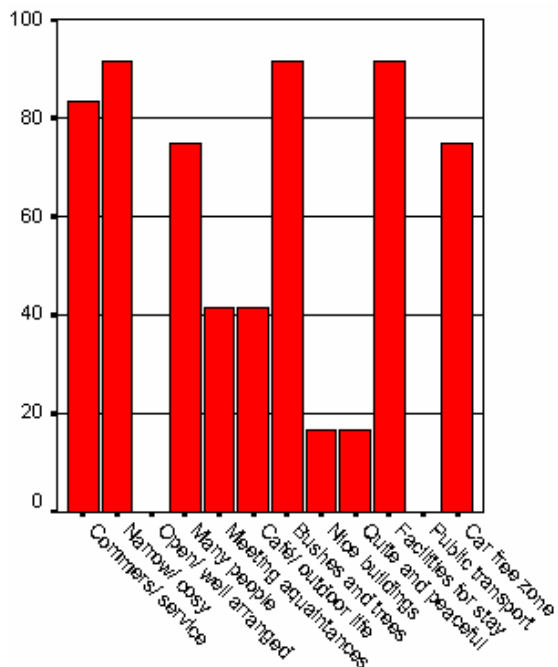


**Table 7.52: SOCIAL FACTORS in Strandgaten on Tuesdays in summer.**  
The bars show the social factors presented in percent in the interval 0-100%.

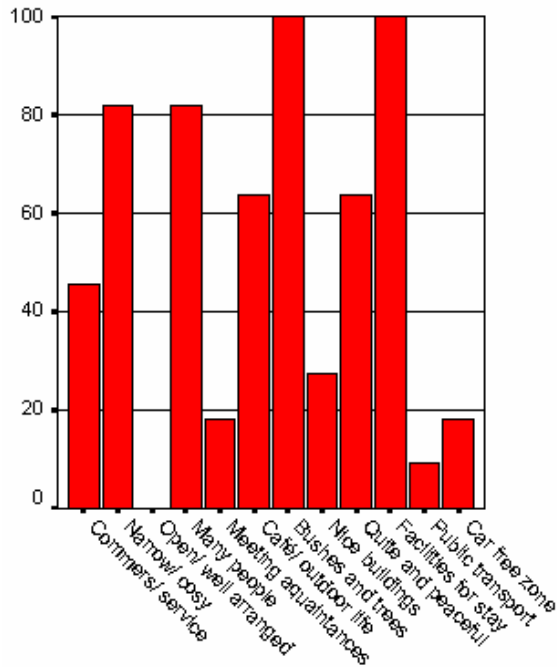
**The street as an extended road notion**

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

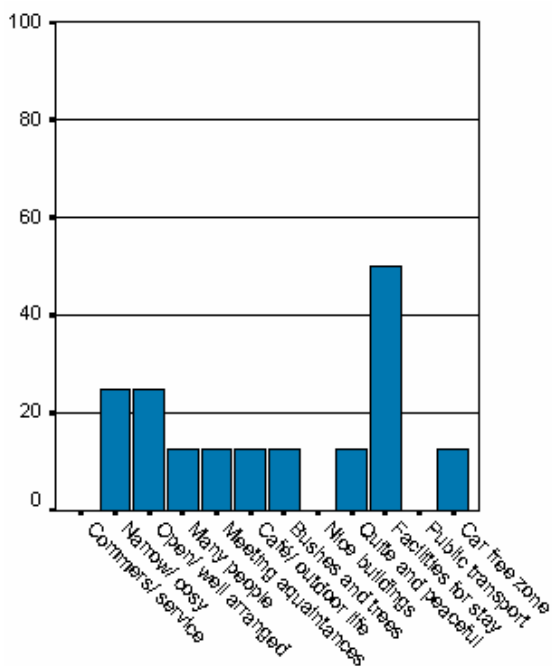
**B2: Social Factors (winter)**



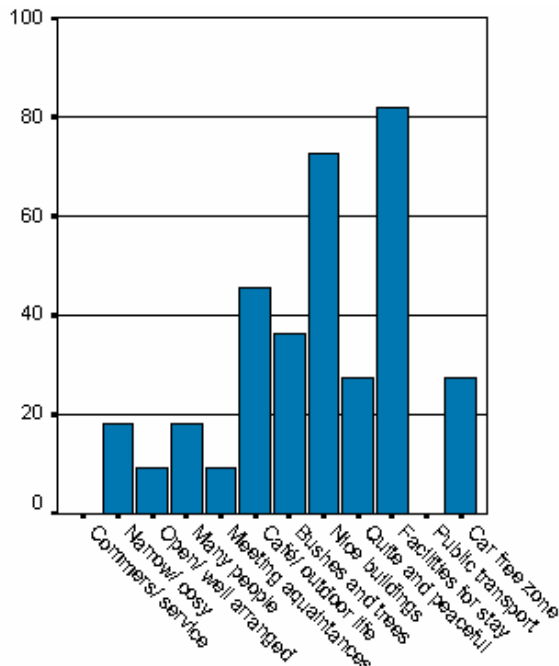
**Table 7.53: SOCIAL FACTORS in Vågsbunnen on Saturdays in winter.**  
The bars show the social factors presented in percent in the interval 0-100%.



**Table 7.54: SOCIAL FACTORS in Vågsbunnen on Tuesdays in winter.**  
The bars show the social factors presented in percent in the interval 0-100%.



**Table 7.55: SOCIAL FACTORS in Strandgaten on Saturdays in winter.**  
The bars show the social factors presented in percent in the interval 0-100%.

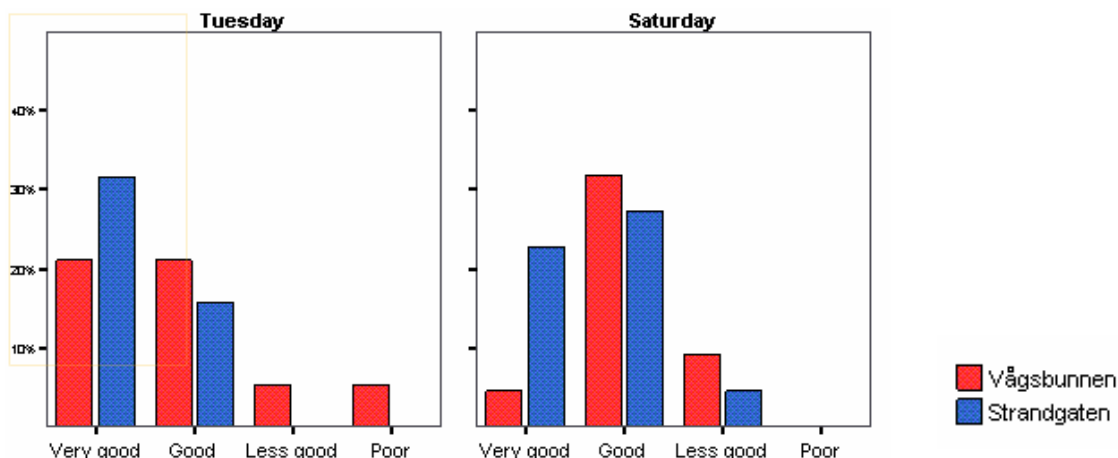


**Table 7.56: SOCIAL FACTORS in Strandgaten on Tuesdays in winter.**  
The bars show the social factors presented in percent in the interval 0-100%.

**The street as an extended road notion**

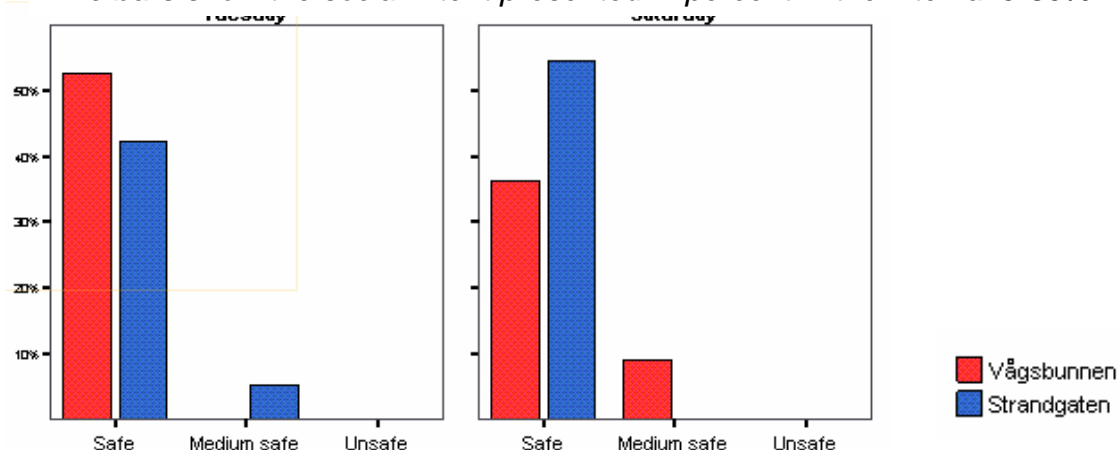
Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

**C1: Social comfort (summer)**



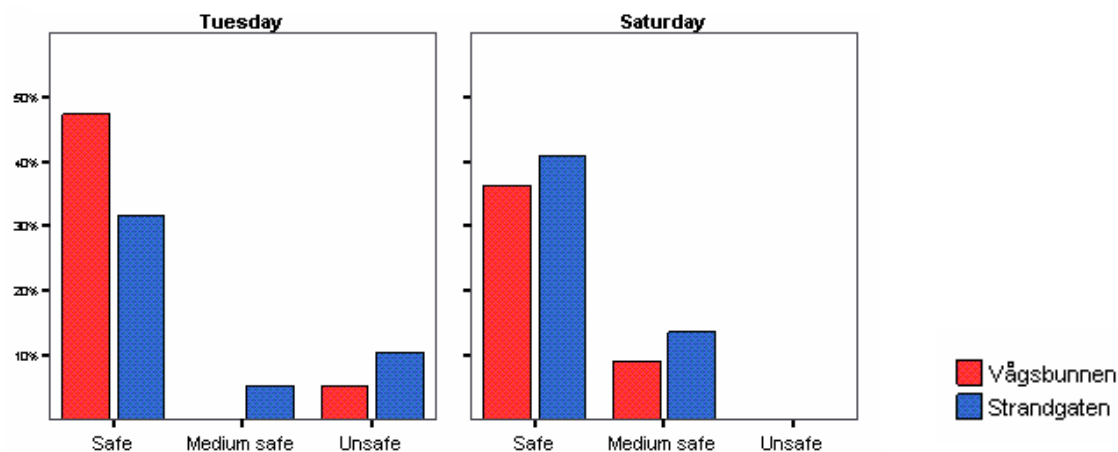
**Table 7.57: WELL BEING**

for Vågsbunnen and Strandgaten registered on **Tuesdays** and **Saturdays** in **SUMMER**. The bars show the social intent presented in percent in the interval 0-50%.



**Table 7.58: SAFETY TRAFFIC**

for Vågsbunnen and Strandgaten registered on **Tuesdays** and **Saturdays** in **SUMMER**. The bars show the social intent presented in percent in the interval 0-60%.



**Table 7.59: SAFETY CRIME/ VIOLENCE**

for Vågsbunnen and Strandgaten registered on **Tuesdays** and **Saturdays** in **SUMMER**. The bars show the social intent presented in percent in the interval 0-60%.



**The street as an extended road notion**

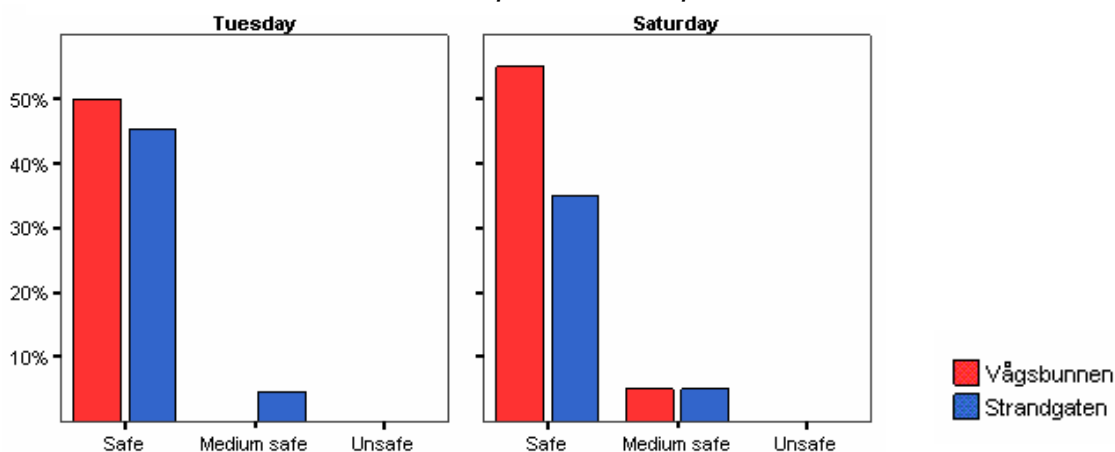
Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

**C2: Social Comfort (winter)**



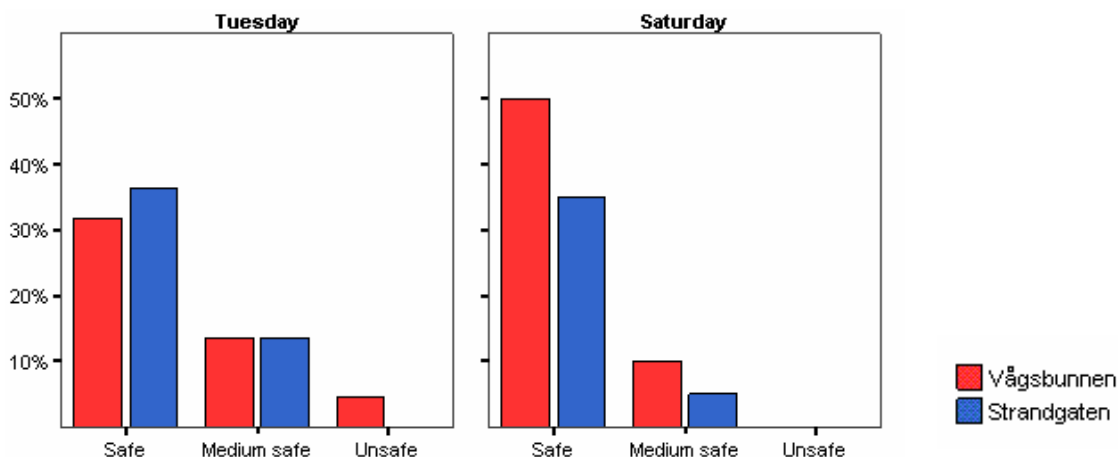
**Table 7.60: WELL BEING:**

for Vågsbunnen and Strandgaten registered on **Tuesdays** and **Saturdays** in **WINTER**. The bars show the social intent presented in percent in the interval 0-50%.



**Table 7.61: SAFETY TRAFFIC**

for Vågsbunnen and Strandgaten registered on **Tuesdays** and **Saturdays** in **WINTER**. The bars show the social intent presented in percent in the interval 0-60%.



**Table 7.62: SAFETY CRIME/ VIOLENCE**

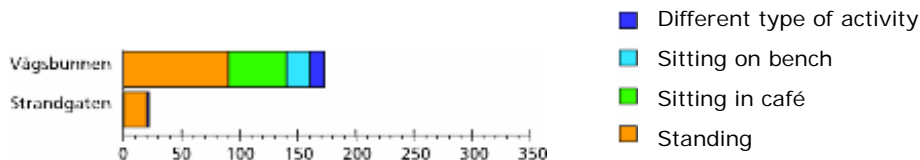
for Vågsbunnen and Strandgaten registered on **Tuesdays** and **Saturdays** in **WINTER**. The bars show the social intent presented in percent in the interval 0-60%.



**The street as an extended road notion**

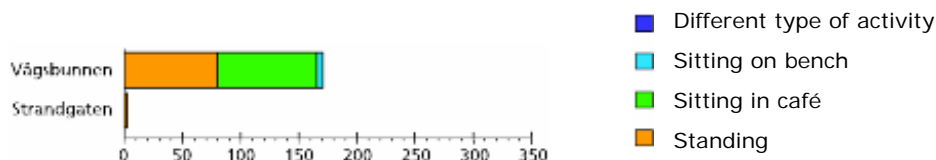
Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

**D: Social Activity**



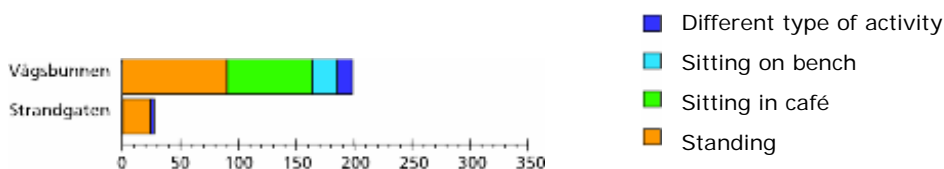
**Table 7.63: SOCIAL ACTIVITY**

Mean number of social activities in Vågsbunnen and Strandgaten, registered in **summer/ Tuesdays** from 10 to 16.



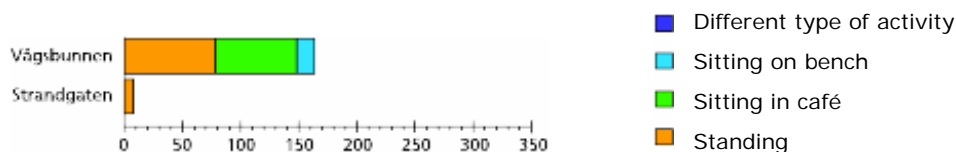
**Table 7.64: SOCIAL ACTIVITY**

Mean number of social activities in Vågsbunnen and Strandgaten, registered in **summer/ Tuesdays** from 7 to 13.



**Table 7.65: SOCIAL ACTIVITY**

Mean number of social activities in Vågsbunnen and Strandgaten, registered in **summer/ Saturdays** from 10 to 16,



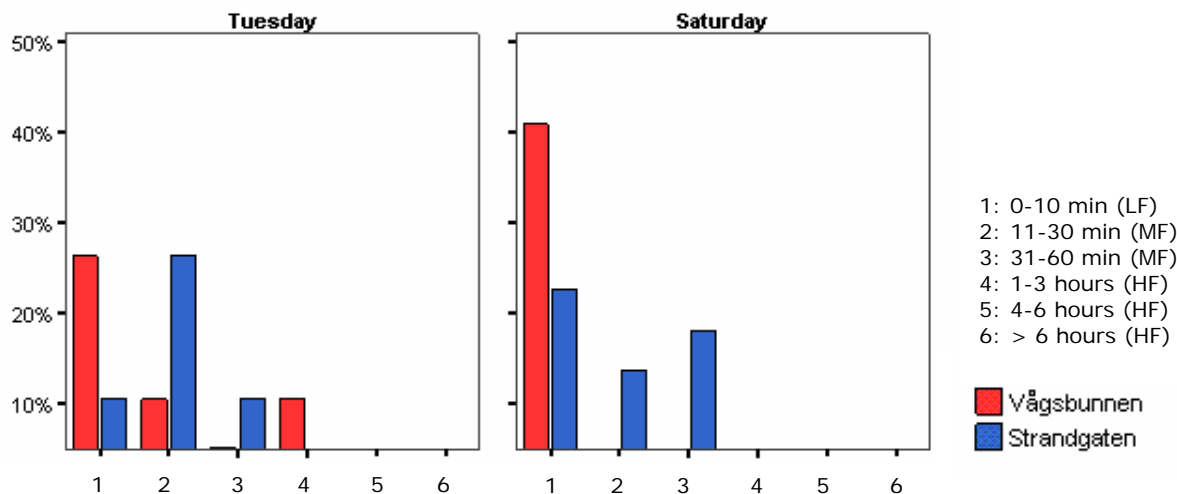
**Table 7.66: SOCIAL ACTIVITY**

Mean number of social activities in Vågsbunnen and Strandgaten, registered in **summer/ Saturdays** from 7 to 13.,

**The street as an extended road notion**

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

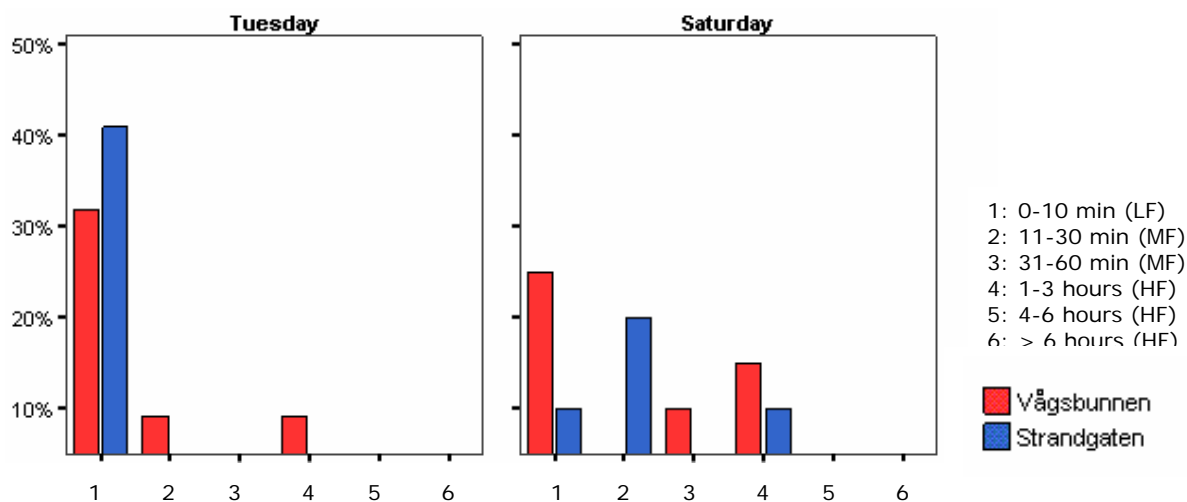
**E: Social Duration**



**Table 7.67: SOCIAL DURATION**

for Vågsbunnen and Strandgaten registered on **Tuesdays** and **Saturdays** in **SUMMER**.

The bars show the social duration presented in percent in the interval 5-50%.



**Table 7.68: SOCIAL DURATION**

Social frequency for Vågsbunnen and Strandgaten registered on **Tuesdays** and **Saturdays** in **WINTER**.

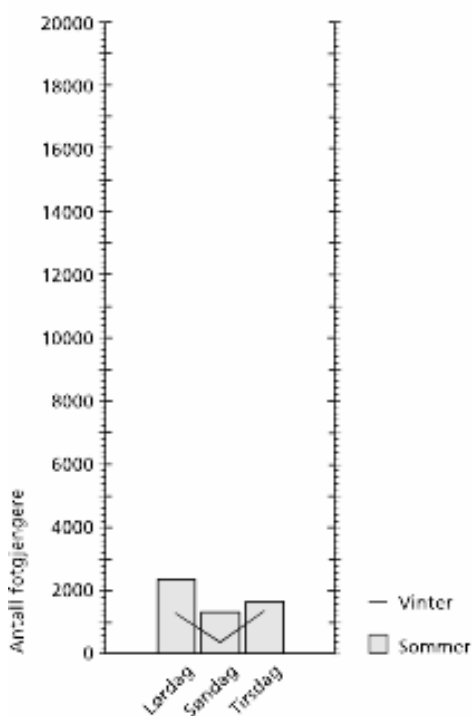
The bars show the social duration presented in percent in the interval 5-50%.

**The street as an extended road notion**

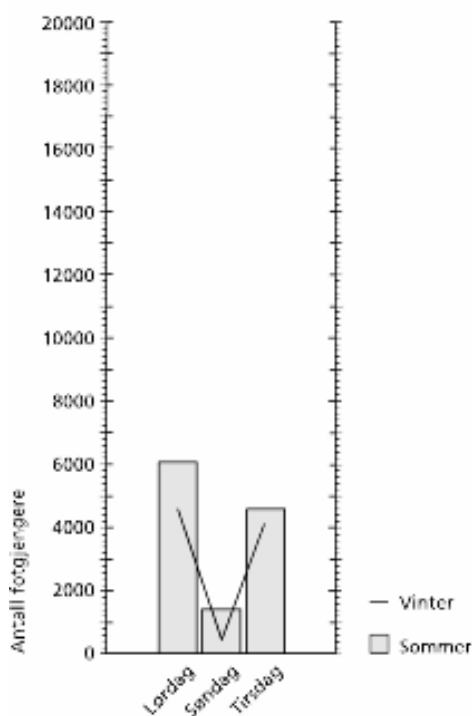
Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

## F: Pedestrian Intensity

Pedestrian intensity is registered at specific location at the following periods:  
 10.00 am-10.15 am, 1.00 pm-1.15 pm, 4.00 pm-4.15 pm, 7.00 pm-7.15 pm, 10.00 pm-10.15 pm, 1.00 am-1.15 am, on:  
 two Saturdays, one Sunday, one Tuesday and one Thursdays in summer and,  
 one Saturday, one Sunday and one Tuesday in winter.



**Table 7.69: PEDESTRIAN INTENSITY**  
 Pedestrians in Vågsbunnen per day.  
 The bars/ lines show the sum of the pedestrian traffic for six registration periods.



**Table 7.70: PEDESTRIAN INTENSITY**  
 Pedestrians in Strandgaten per day.  
 The bars/ lines show the sum of the pedestrian traffic for six registration periods.

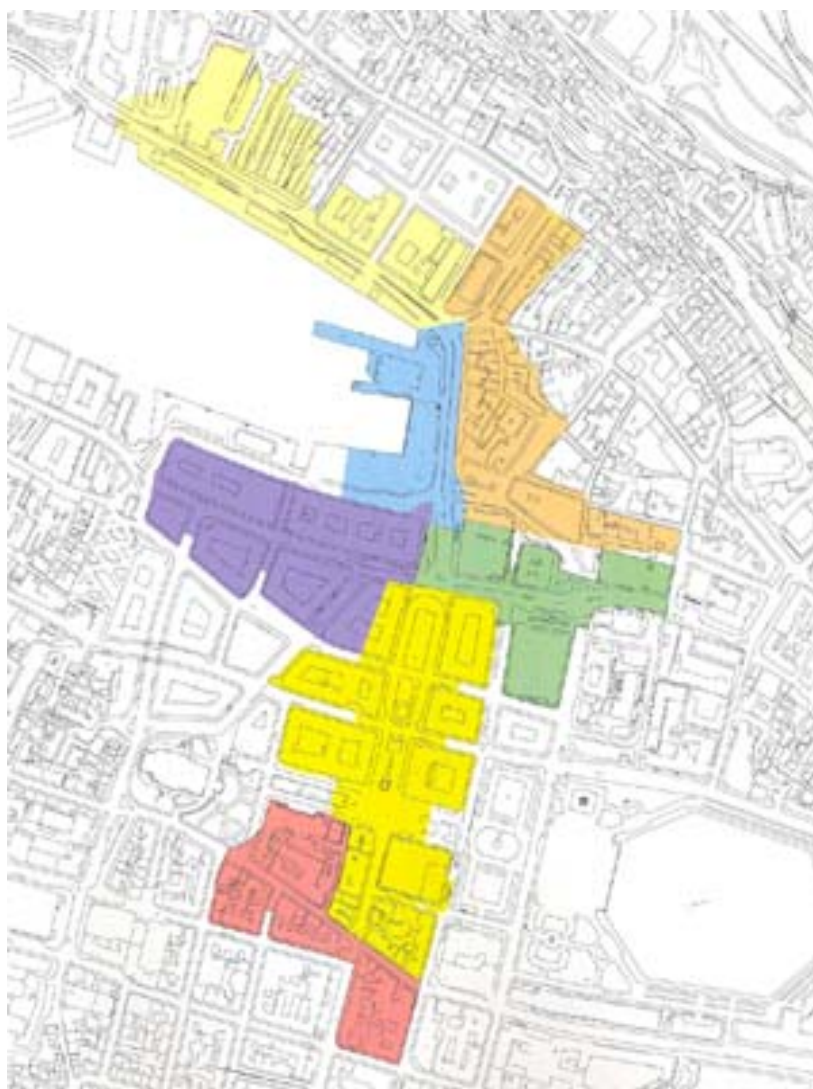
|

## 7.2.5 Bergen: Torgalmenningen / Bryggen

Torgalmenningen and Bryggen are two of the major tourist attractions of Bergen, the former a car free square of great architectural splendour and the latter a heavy motorized transport artery with buildings of such architectural significance that they are featured in the UNESCO Heritage List. Both areas are undoubtedly social arenas despite different functions.

### **Social arena: *Torgalmenningen***

- square:



**Figure 7.24:**  
*Map of Torgalmenningen  
Indicated with bright  
yellow*

***The street as an extended road notion***

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

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Torgalmenningen is the definite heart of Bergen and the obvious location for major public events and happenings. The square, including the carefully planned six story classicistic buildings, has recently undergone a successful rehabilitation causing a public uproar. Torgalmenningen represents the ultimate social arena.

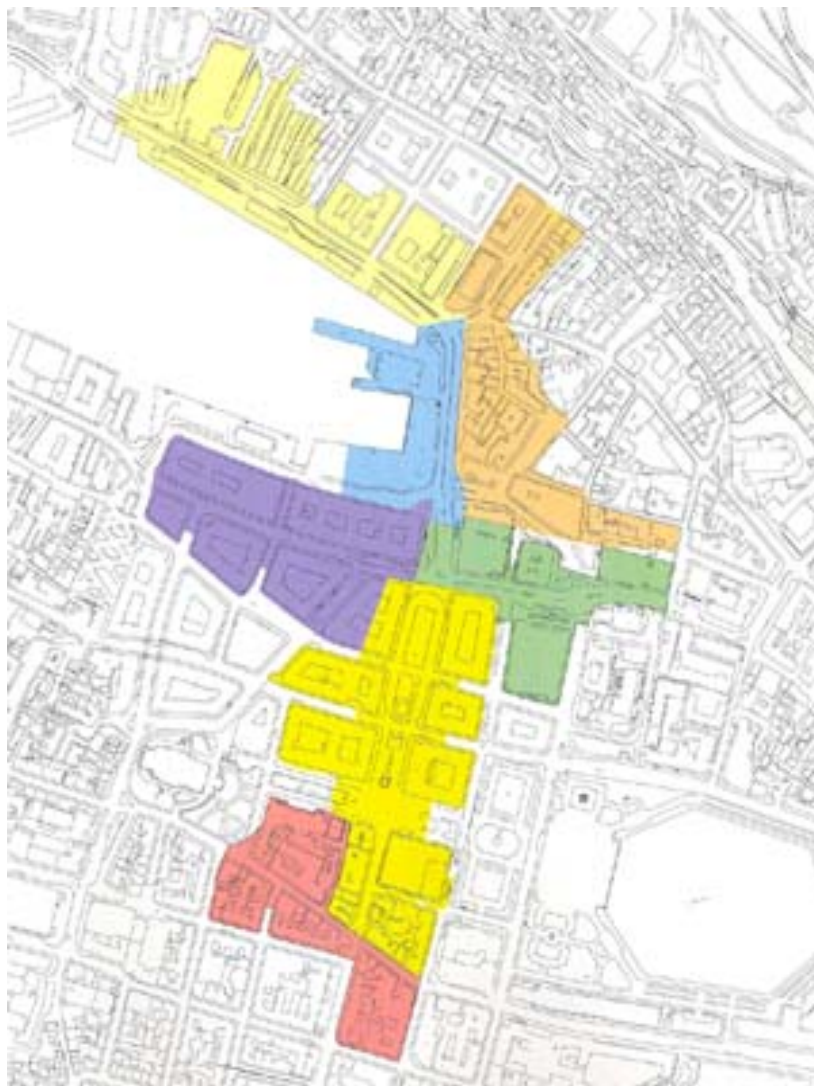


**Figure 7.25:**  
*Torgalmenningen is a true social arena and a magnificent urban space.*



## Social arena: Bryggen

- street/ waterfront:



**Figure 7.26:**  
Map of  
Torgalmenningen  
indicated with pale  
yellow.

Bryggen is the main tourist magnet of Bergen, featured in the UNESCO Heritage List. It is not the street nor the waterfront which has given Bryggen its position as a sight of supreme status, but rather the traditional warehouses, now converted into restaurants and souvenir shops. Bryggen represents a possible social arena for tourists on sunny days and for those who find their way to waterfront restaurants. However, without car traffic, the street has a tremendous potential as a social arena.



***The street as an extended road notion***

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

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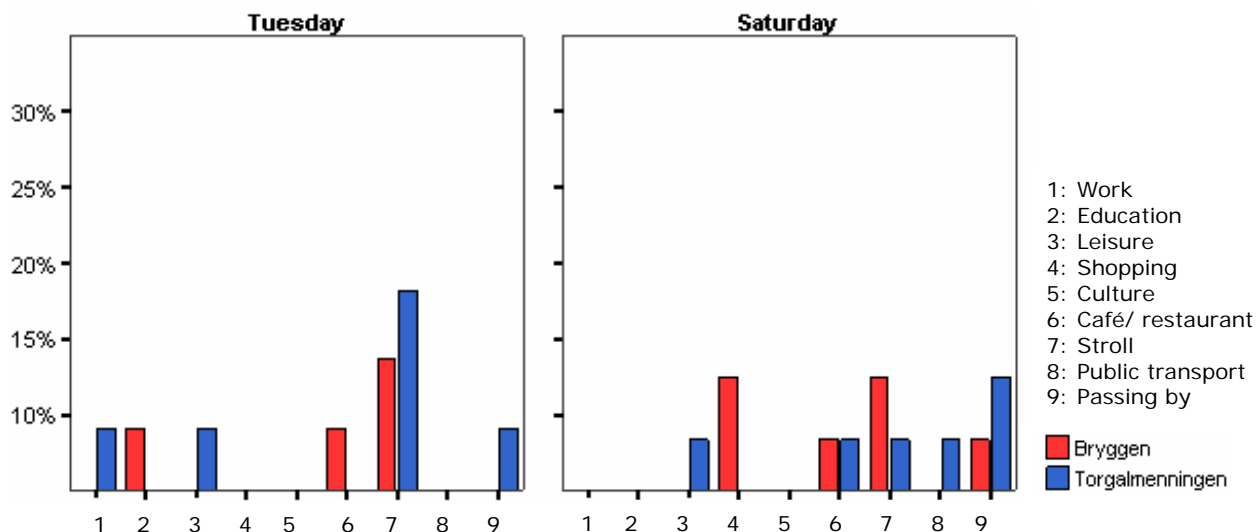


**Figure 7.27:**  
*Bryggen with its waterfront.*

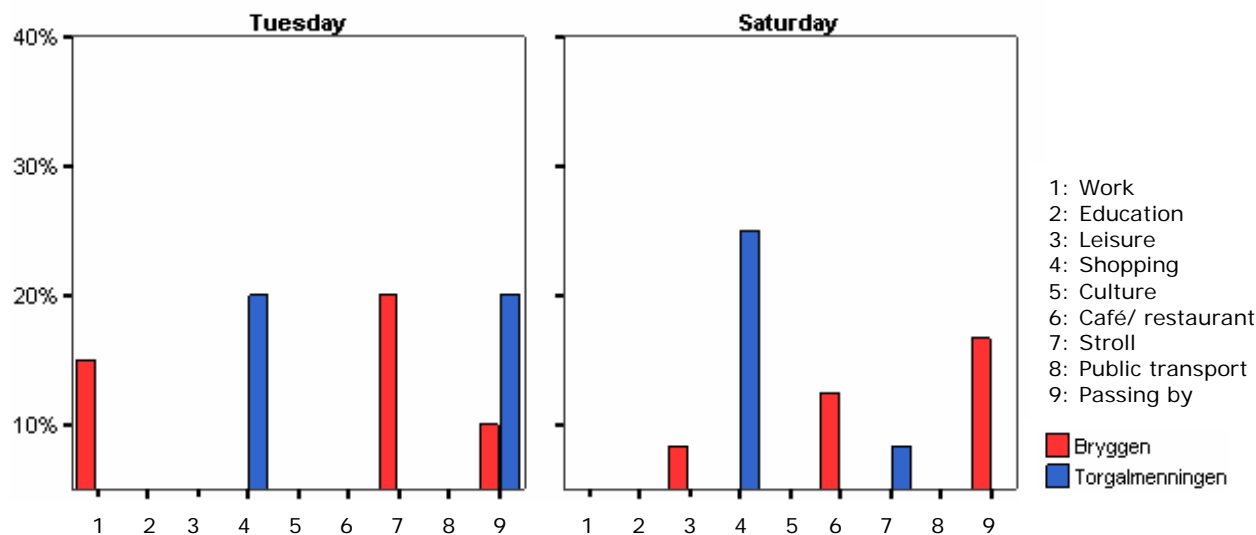
**The street as an extended road notion**

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

**A: Social Intent**



**Table 7.71: SOCIAL INTENT**  
*intent for Bryggen and Torgalmenningen registered on **Tuesdays** and **Saturdays** in **SUMMER**. The bars show the social intent presented in percent in the interval 5-40%.*

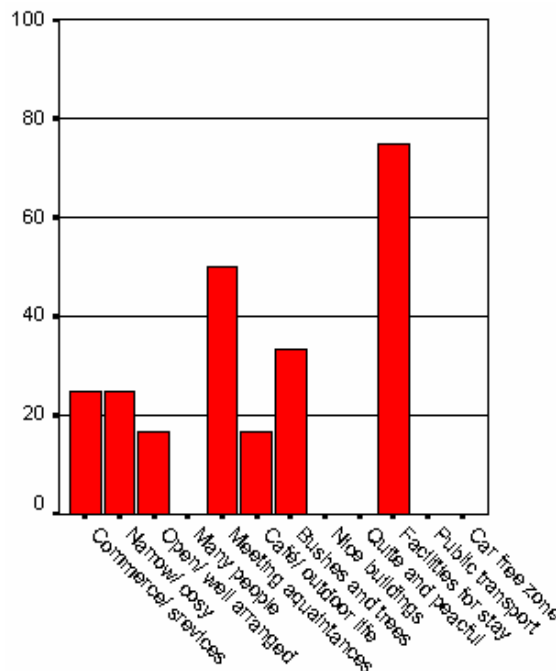
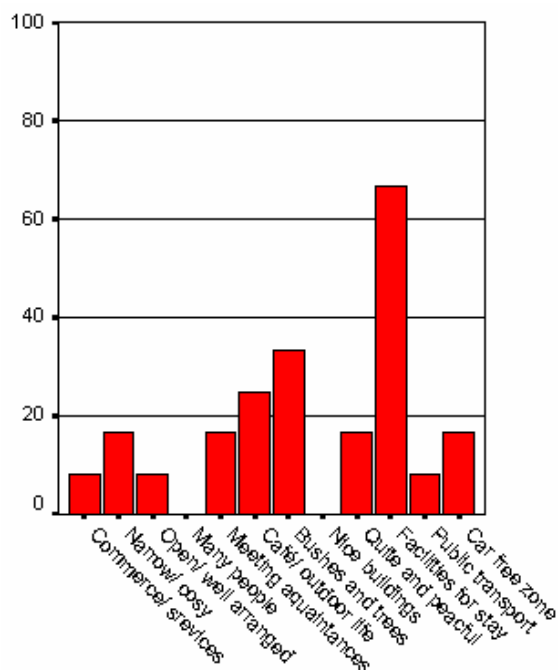


**Table 7.72: SOCIAL INTENT**  
*for Bryggen and Torgalmenningen registered on **Tuesdays** and **Saturdays** in **WINTER**. The bars show the social intent presented in percent in the interval 5-40%.*

**The street as an extended road notion**

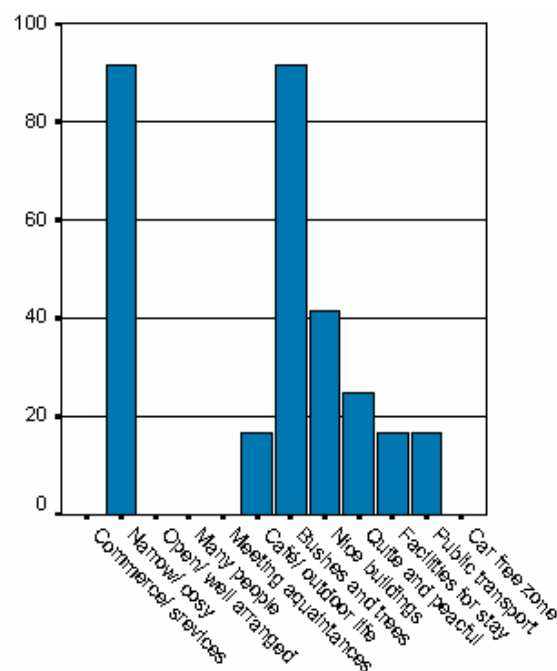
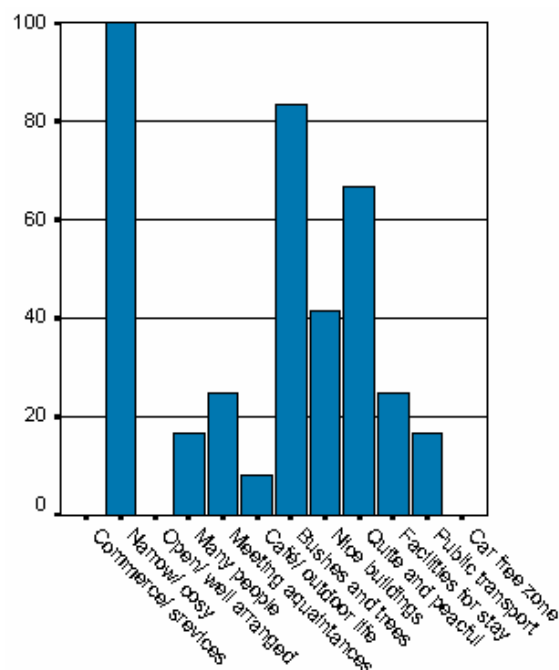
Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

**B1: Social Factors (summer)**



**Table 7.73: SOCIAL FACTORS in Bryggen on Saturdays in summer.**  
The bars show the social factors presented in percent in the interval 0-100%.

**Table 7.74: SOCIAL FACTORS in Bryggen on Tuesdays in summer.**  
The bars show the social factors presented in percent in the interval 0-100%.



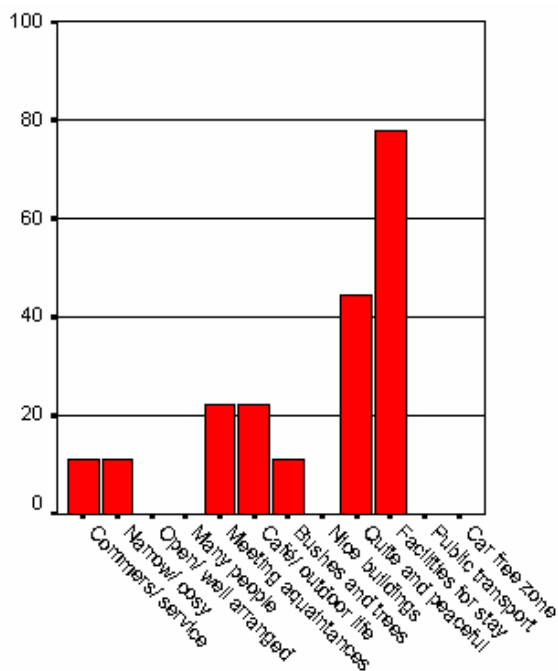
**Table 7.75: SOCIAL FACTORS in Torgalmenningen on Saturdays in summer.**  
The bars show the social factors presented in percent in the interval 0-100%.

**Table 7.76: SOCIAL FACTORS in Torgalmenningen on Tuesdays in summer.**  
The bars show the social factors presented in percent in the interval 0-100%.

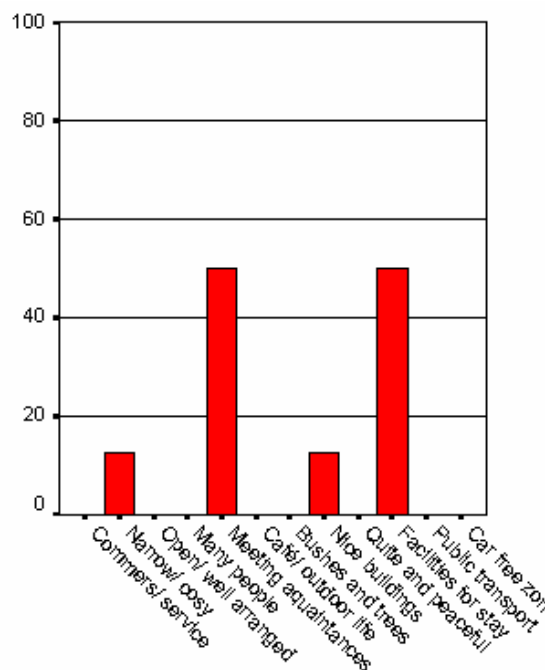
**The street as an extended road notion**

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

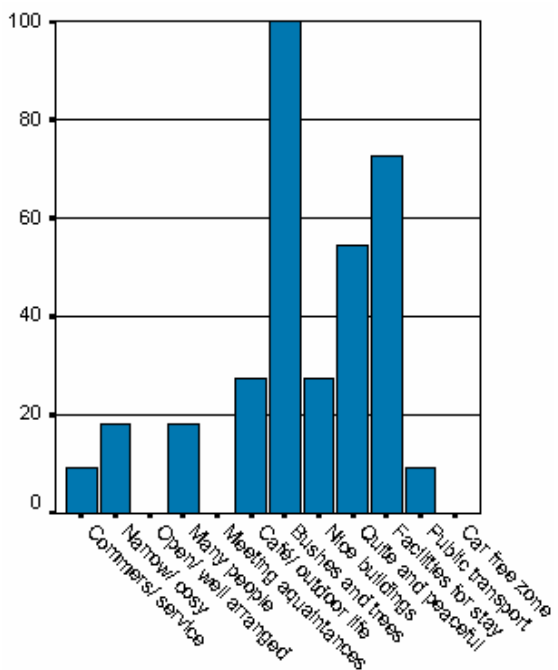
**B2: Social Factors (winter)**



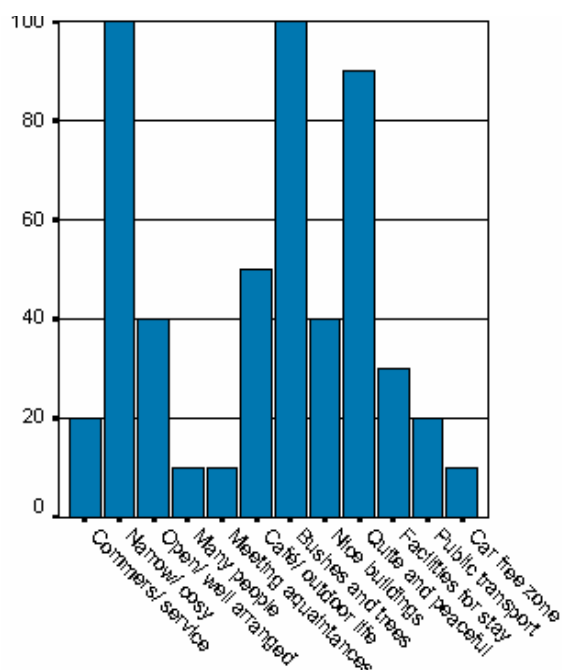
**Table 7.77: SOCIAL FACTORS in Bryggen on Saturdays in winter.**  
The bars show the social factors presented in percent in the interval 0-100%.



**Table 7.78: SOCIAL FACTORS in Bryggen on Tuesdays in winter.**  
The bars show the social factors presented in percent in the interval 0-100%.



**Table 7.79: SOCIAL FACTORS in Torgalmenningen on Saturdays in winter.**  
The bars show the social factors presented in percent in the interval 0-

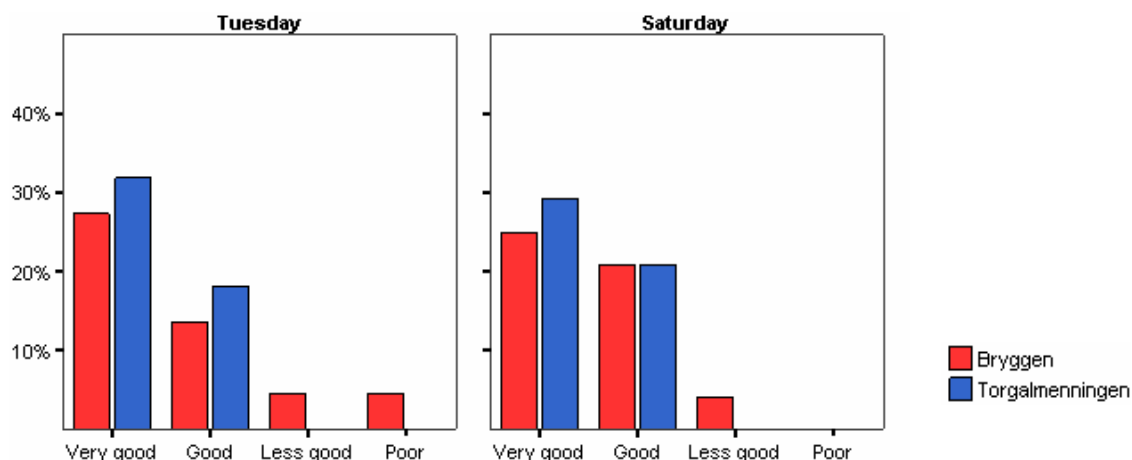


**Table 7.80: SOCIAL FACTORS in Torgalmenningen on Tuesdays in winter.**  
The bars show the social factors presented in percent in the interval 0-

**The street as an extended road notion**

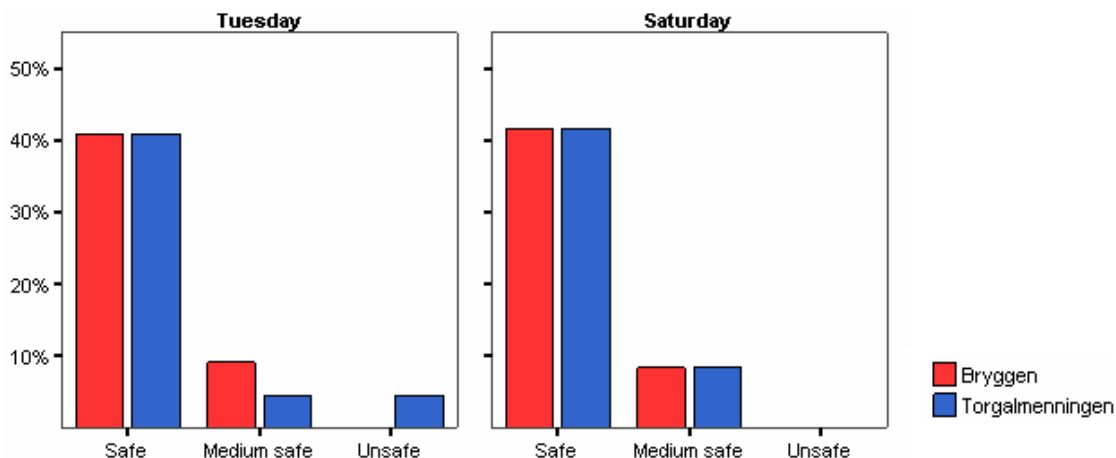
Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

**C1: Social Comfort (summer)**



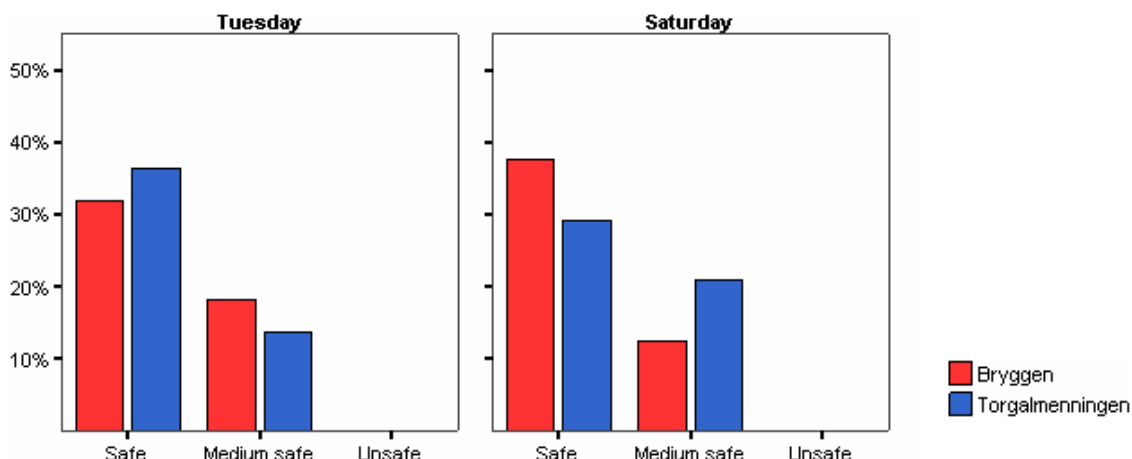
**Table 7.81: WELL BEING**

for Bryggen and Torgalmenningen registered on **Tuesdays** and **Saturdays** in **SUMMER**. The bars show the social intent presented in percent in the interval 0-50%.



**Table 7.82: SAFETY TRAFFIC**

for Bryggen and Torgalmenningen registered on **Tuesdays** and **Saturdays** in **SUMMER**. The bars show the social intent presented in percent in the interval 0-55%.



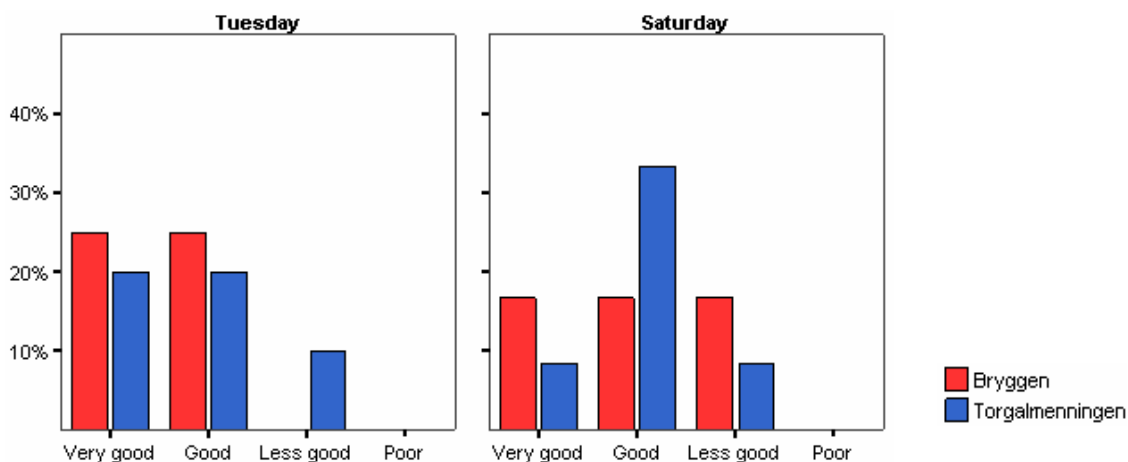
**Table 7.83: SAFETY CRIME/VIOLENCE**

for Bryggen and Torgalmenningen registered on **Tuesdays** and **Saturdays** in **SUMMER**. The bars show the social intent presented in percent in the interval 0-55%.

**The street as an extended road notion**

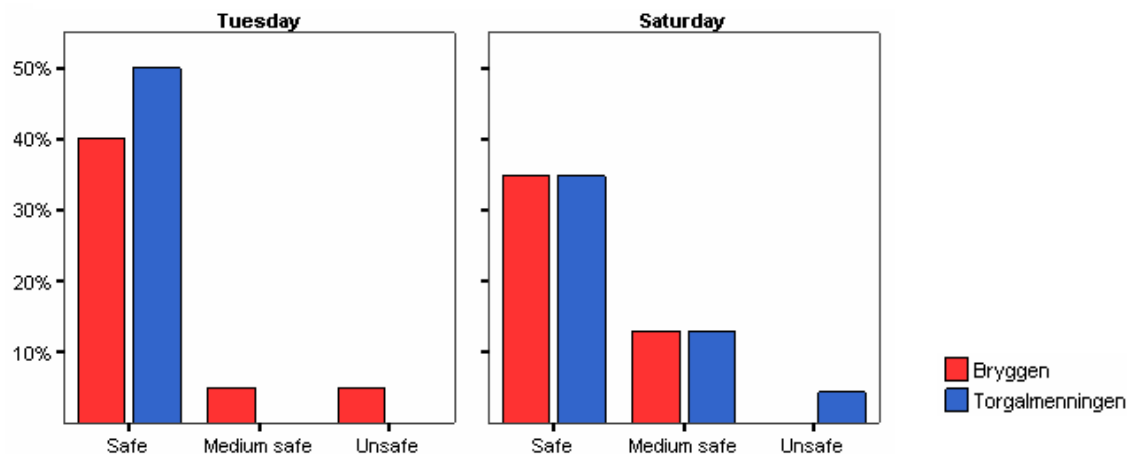
Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

**C2: Social comfort (winter)**



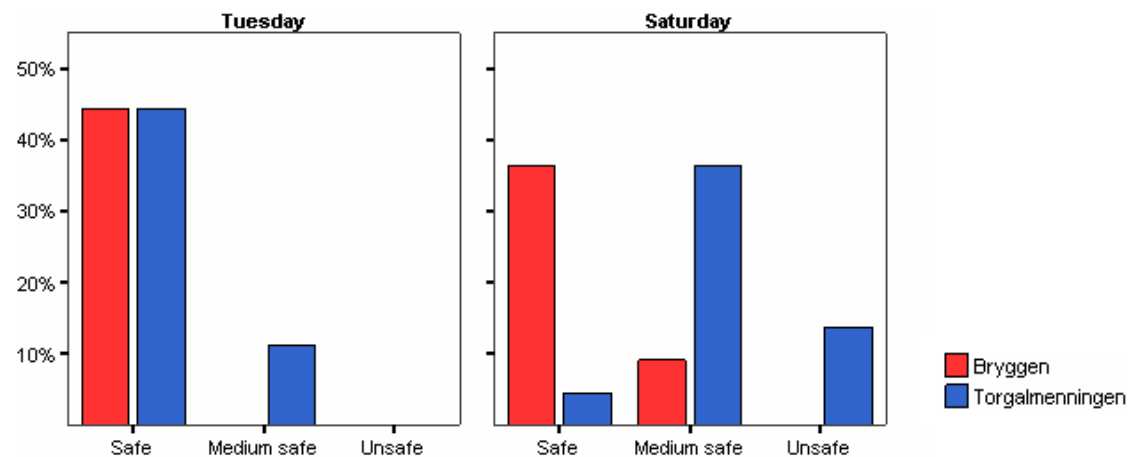
**Table 7.84: WELL BEING**

for Bryggen and Torgalmenningen registered on **Tuesdays** and **Saturdays** in **WINTER**. The bars show the social intent presented in percent in the interval 0-50%.



**Table 7.85: SAFETY TRAFFIC**

for Bryggen and Torgalmenningen registered on **Tuesdays** and **Saturdays** in **WINTER**. The bars show the social intent presented in percent in the interval 0-55%.



**Table 7.86: SAFETY CRIME/VIOLENCE**

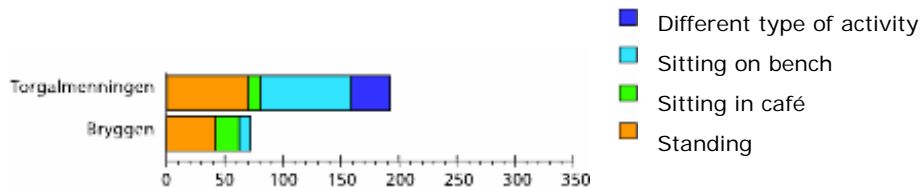
for Bryggen and Torgalmenningen registered on **Tuesdays** and **Saturdays** in **WINTER**. The bars show the social intent presented in percent in the interval 0-55%.



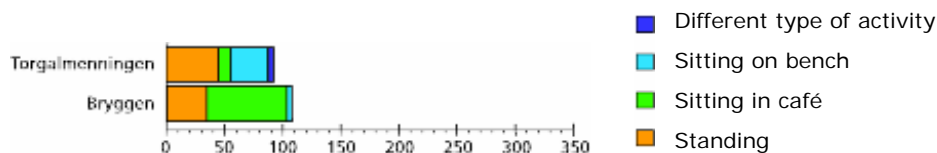
**The street as an extended road notion**

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

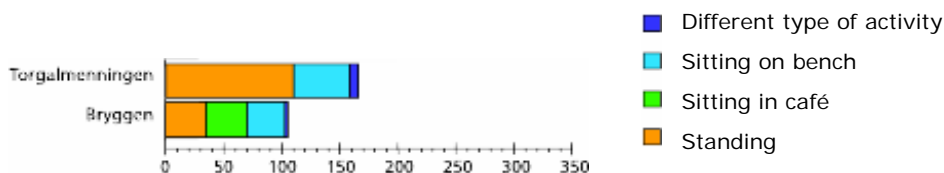
**D: Social Activity**



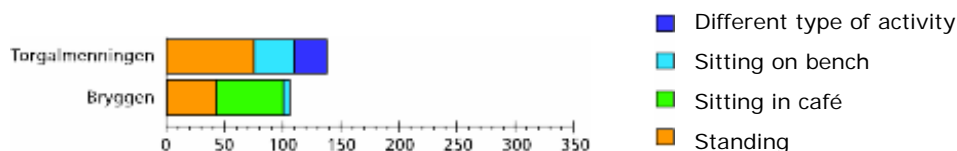
**Table 7.87: SOCIAL ACTIVITY**  
 Mean number of social activities in Bryggen and Torgalmenningen, registered in **summer/ Tuesdays** from 10 to 16.



**Table 7.88: SOCIAL ACTIVITY**  
 Mean number of social activities in Bryggen and Torgalmenningen, registered in **summer/ Tuesdays** from 10 to 16.



**Table 7.89: SOCIAL ACTIVITY**  
 Mean number of social activities in Bryggen and Torgalmenningen, registered in **summer/ Saturdays** from 10 to 16.

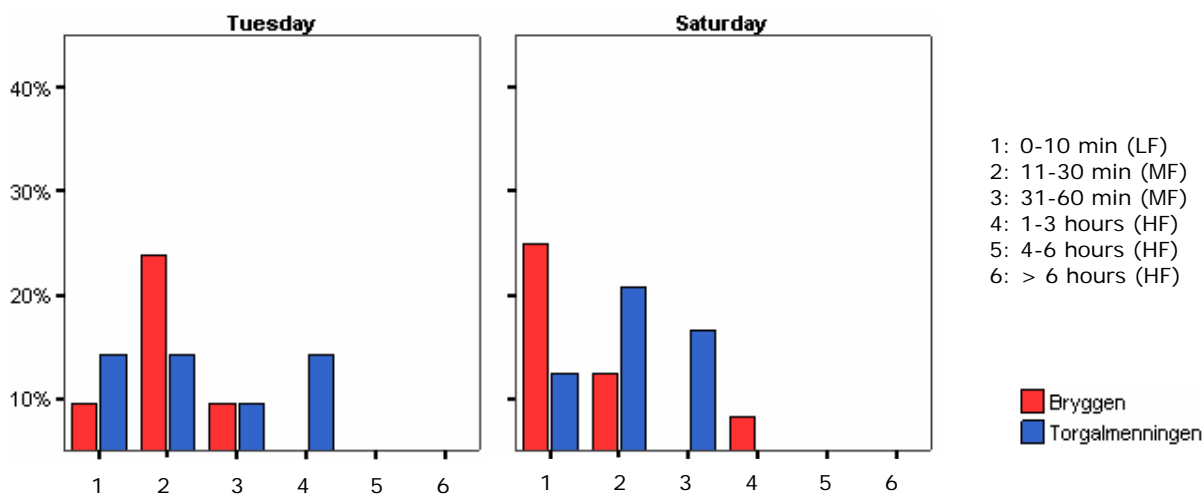


**Table 7.90: SOCIAL ACTIVITY**  
 Mean number of social activities in Bryggen and Torgalmenningen, registered in **summer/ Saturdays** from 10 to 16.

**The street as an extended road notion**

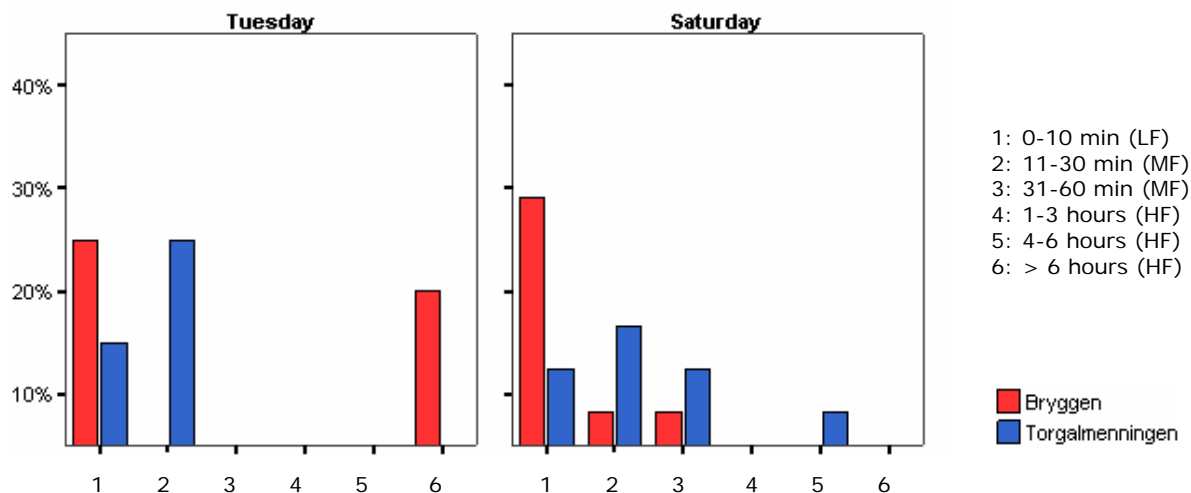
Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

**E: Social Duration**



**Table 7.91: SOCIAL DURATION**

for Bryggen and Torallmenningen registered on **Tuesdays** and **Saturdays** in **SUMMER**. The bars show the social duration presented in percent in the interval 5-45%.



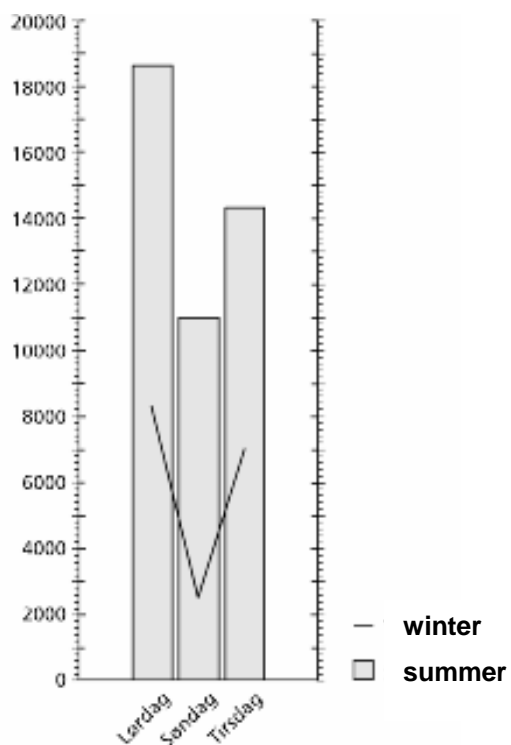
**Table 7.92: SOCIAL DURATION**

for Bryggen and Torgalmenningen registered on **Tuesdays** and **Saturdays** in **WINTER**. The bars show the social duration presented in percent in the interval 5-45%.

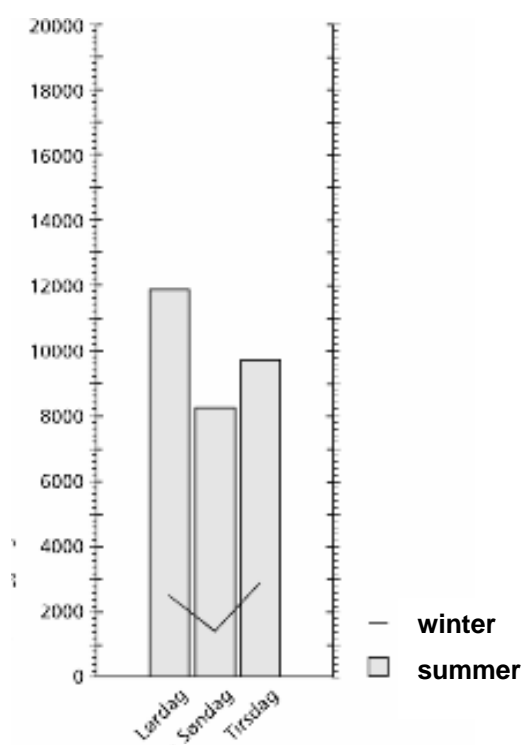
**The street as an extended road notion**

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

**F: Pedestrian Intensity**



**Table 7.93: PEDESTRIAN INTENSITY** in Torgalmenningen. The bars show the sum of the pedestrian traffic for six registration periods.



**Table 7.94: PEDESTRIAN INTENSITY** in Bryggen. The bars show the sum of the pedestrian traffic for six registration periods.

### *The street as an extended road notion*

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

## 7.2.6 Hamar: Stortorget and Østre Torg

Stortorget and Østre Torg are the two squares of importance in Hamar. They are different both functionally and architecturally and these characteristics seem to affect their significance as social arenas. Stortorget has a unique architectural position within the urban setting of Hamar while Østre Torg constitutes a missing building block within the general urban structure.

### Social arena: Stortorget

- square/ market place:



**Figure 7.28:**  
Map of Stortorget  
indicated in violet  
and labelled 1.

Stortorget has a manifold of functions both within the square (market place for vegetables, fruit and flowers) and in the adjacent buildings (library, cinema and restaurants). It is a traffic junction with excellent parking facilities and good accessibility. These elements should have given Stortorget a position as an undisputable arena for social gathering. But this is not necessarily the case. Poor maintenance and an undefined and sprawling architectural form make it unsuitable as a social arena.

***The street as an extended road notion***

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

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**Figure 7.29:**  
*Stortorget in Hamar offers flowers, vegetables and car parking facilities, but hardly anything else.*

According to the Hamar report Stortorget is a complex urban space with long mutual distances between the arenas where the most important activities take place. The market and the town library are major generators for social activities at daytime, while the cinema and the restaurants generate activity in the evenings. Apart from the market activity, Stortorget has not mentionable commercial activities; the shops are very few. Stortorget is foremost a traffic junction with well-developed facilities for parking and good accessibility for cars. Visually Stortorget appears diffuse, waste and shabby, and does not invite for social activities. In fact its physical form does not seem to be suitable for staying or any optional activities.



### **The street as an extended road notion**

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

## **Social arena: Østre Torg**

- square:



**Figure 7.30:**  
Map of Østre Torg  
Indicated with blue  
and labelled 5.

Østre Torg is located as part of Torggata. It is a defined and well-proportioned urban space adapted for urban life; but still, its visual impression expresses sterility and vastness. The few attractions available are generating limited urban life due to their inexpedient location.



**Figure 7.31:**  
The location adjacent to Torggata is a blessing for the derelict Østre Torg. Innovative arrangements for trees and bushes do not contribute aesthetically or socially.



***The street as an extended road notion***

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

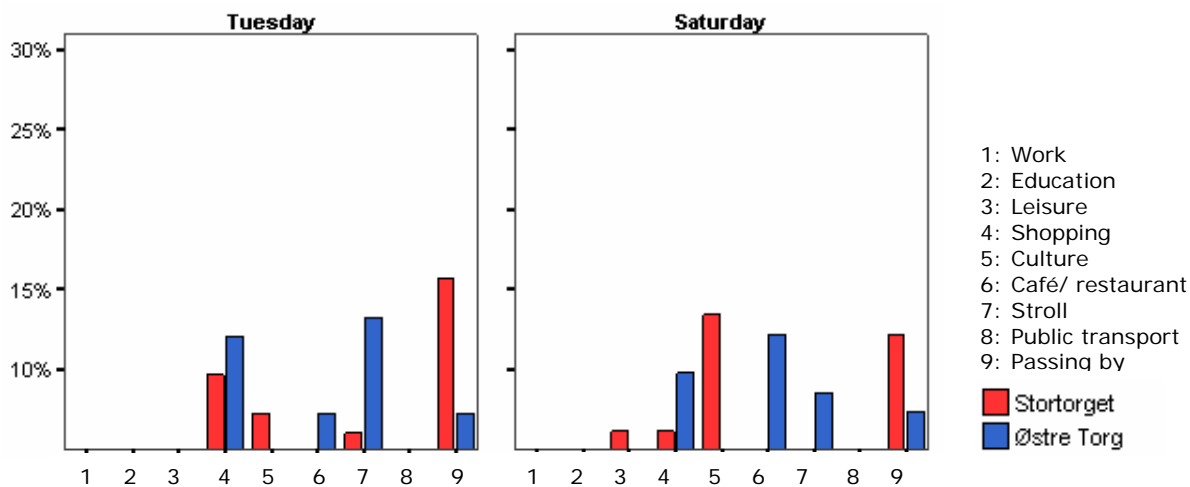
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According to the Hamar report the physical environment of Østre Torg has relatively high quality level. The square, unlike Stortorvet, is a true and well-defined urban space that is well adapted for stay. However, the square appears comparatively open and sterile with no other attractions such as shops and cafés at the edges than seating facilities and other furniture for stay. Consequently, there are few, if any establishments that encourage people to cross the square. The only restaurant present might have had a generating function as a social gathering place, but its situation on the outskirts of the square does not allow for such function. The accessibility is good, although not as good as Stortorvet.

**The street as an extended road notion**

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

**A: Social Intent**



**Table 7.95: SOCIAL INTENT**

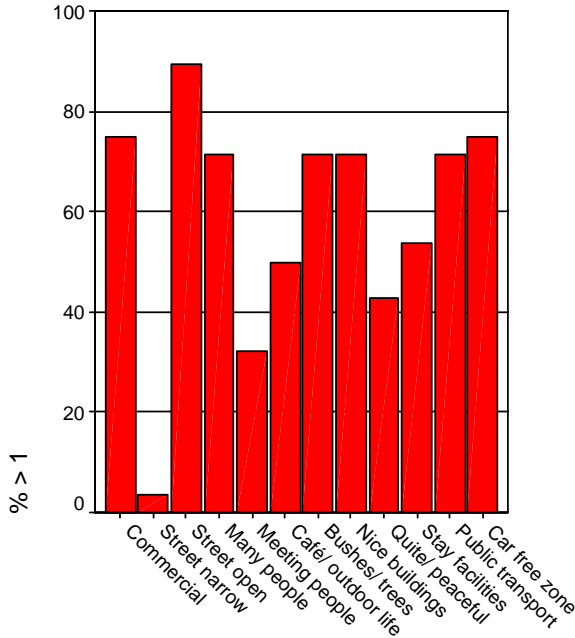
for Stortorget and Østre Torg registered on **Tuesdays** and **Saturdays** in **SUMMER**.

The bars show the social intent presented in percent in the interval 5-30%.

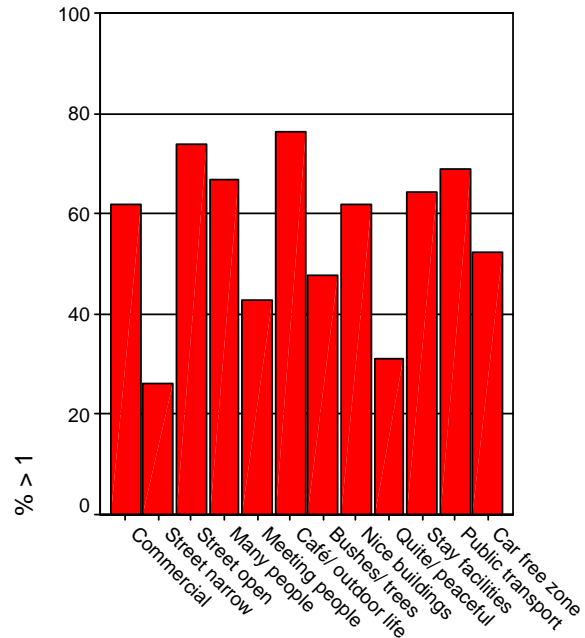
**The street as an extended road notion**

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

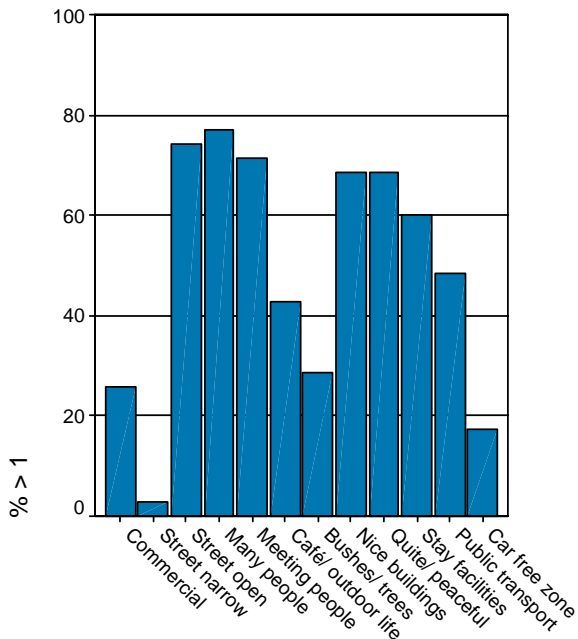
**B: Social Factors**



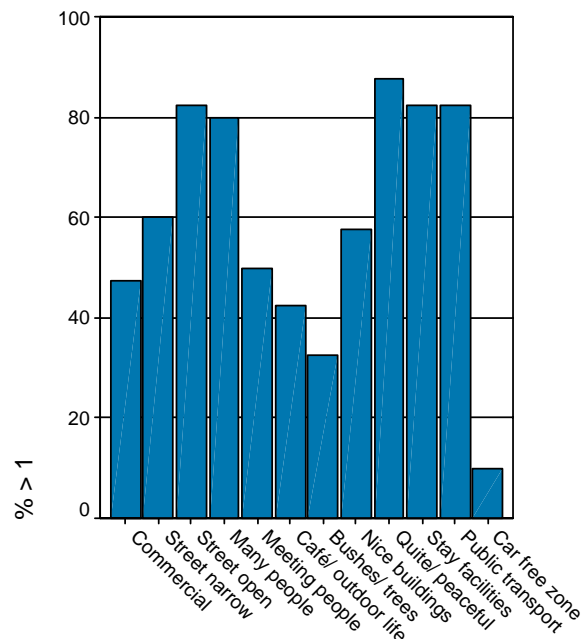
**Table 7.96: SOCIAL FACTORS** for **Stortorget** registered on **Saturday**. The bars show percent values in the interval 0-100%.



**Table 7.97: SOCIAL FACTORS** for **Stortorget** registered on **Tuesday**. The bars show percent values in the interval 0-100%.



**Table 7.98: SOCIAL FACTORS** for **Østre torg** registered on **Saturday**. The bars show percent values in the interval 0-100%.

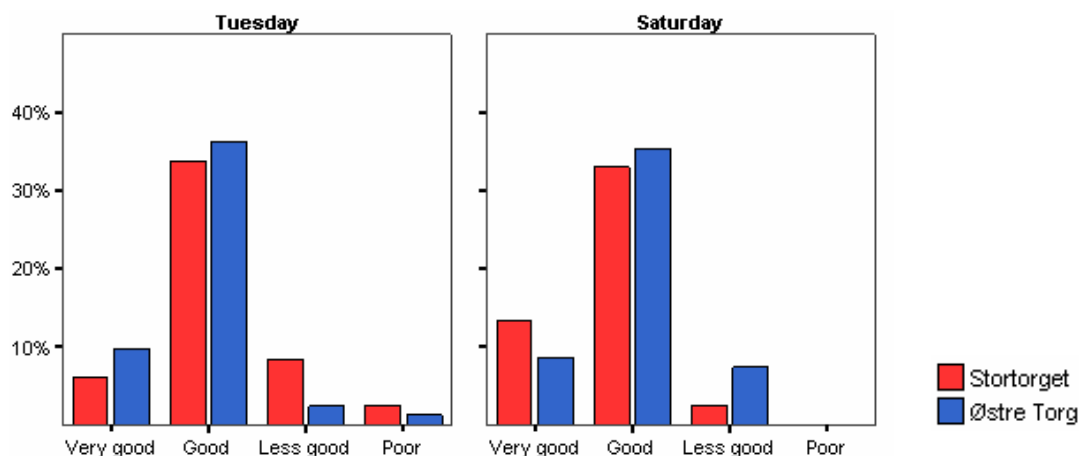


**Table 7.99: SOCIAL FACTORS** for **Østre torg** registered on **Tuesday**. The bars show percent values in the interval 0-100%.

**The street as an extended road notion**

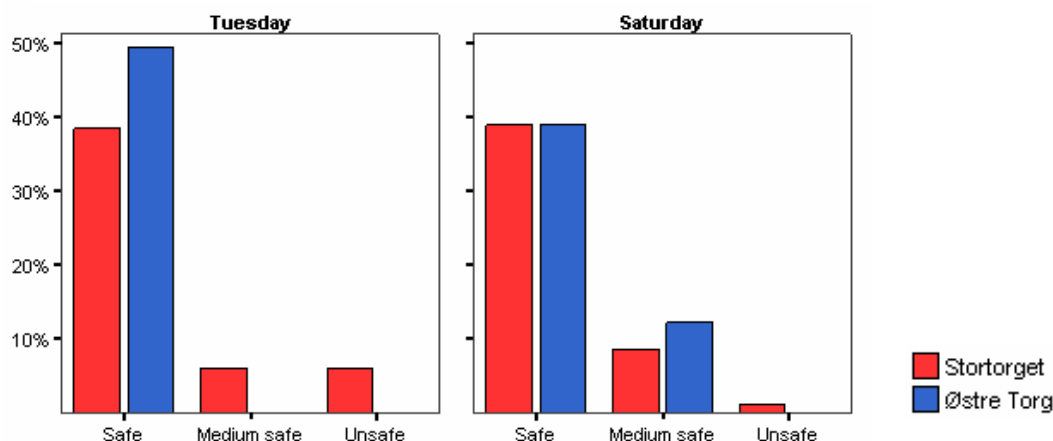
Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

**C: Social Comfort**



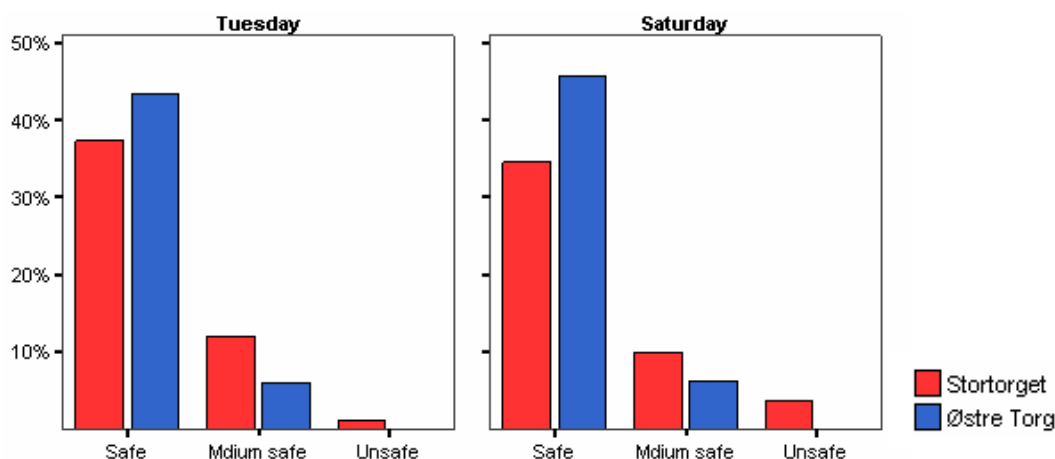
**Table 7.100: WELL BEING**

for Stortorget and Østre Torg registered on **Tuesdays** and **Saturdays** in **SUMMER**. The bars show the social intent presented in percent in the interval 0-50%.



**Table 7.101: SAFETY TRAFFIC**

for Stortorget and Østre Torg registered on **Tuesdays** and **Saturdays** in **SUMMER**. The bars show the social intent presented in percent in the interval 0-60%.



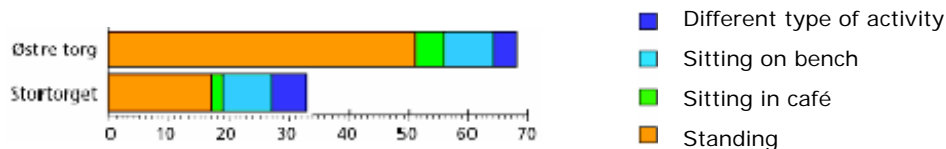
**Table 7.102: SAFETY CRIME/ VIOLENCE**

for Stortorget and Østre Torg registered on **Tuesdays** and **Saturdays** in **SUMMER**. The bars show the social intent presented in percent in the interval 0-60%.

**The street as an extended road notion**

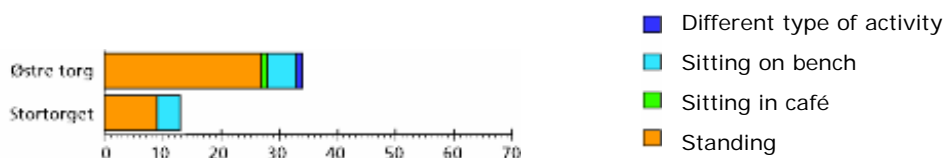
Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

**D: Social Activity**



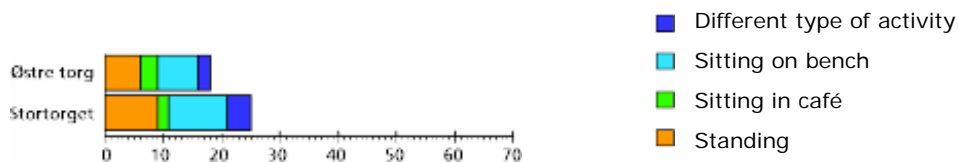
**Table 7.103: SOCIAL ACTIVITY**

Mean number of social activities in Østre torg and Stortorget, registered in summer/ Saturdays from 10 to 17.



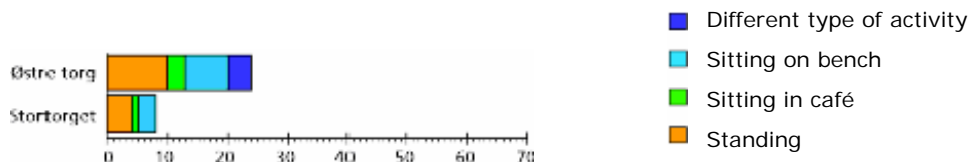
**Table 7.104: SOCIAL ACTIVITY**

Mean number of social activities in Østre torg and Stortorget, registered in summer/ Saturdays from 18 to 24.



**Table 7.105: SOCIAL ACTIVITY**

Mean number of social activities in Østre torg and Stortorget, registered in summer/ Tuesdays from 10 to 17.



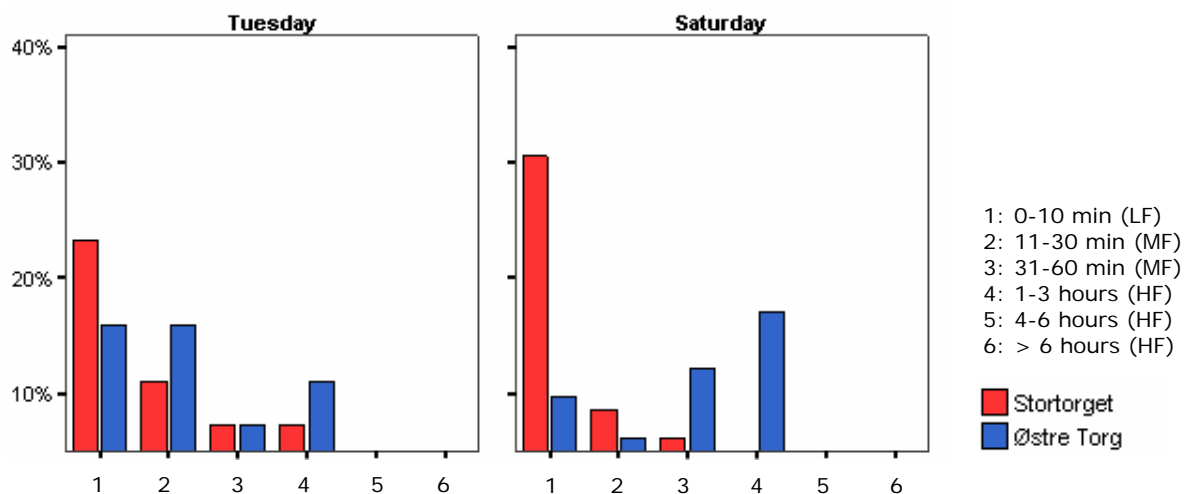
**Table 7.106: SOCIAL ACTIVITY**

Mean number of social activities in Østre torg and Stortorget, registered in summer/ Tuesdays from 18 to 24.

**The street as an extended road notion**

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

**E: Social Duration**



**Table 7.107: SOCIAL DURATION**

for Stortorget and Østre Torg registered on **Tuesdays** and **Saturdays** in **SUMMER**.

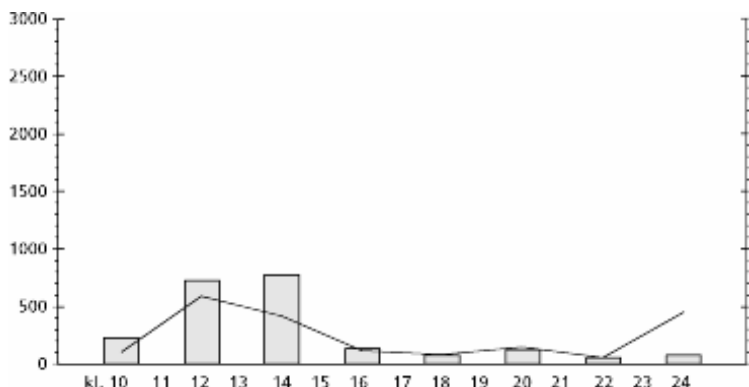
The bars show the social duration presented in percent in the interval 5-40%.



**The street as an extended road notion**

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

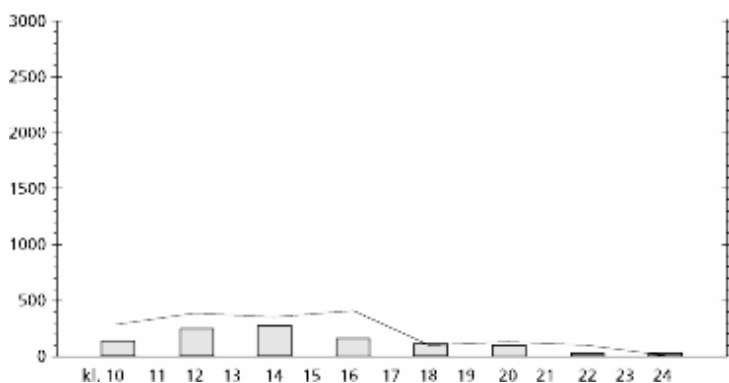
**F: Pedestrian Intensity**



**Table 7.108: PEDESTRIAN INTENSITY in Stortorget on Saturdays.**

The bars/ lines show pedestrian use per hour.

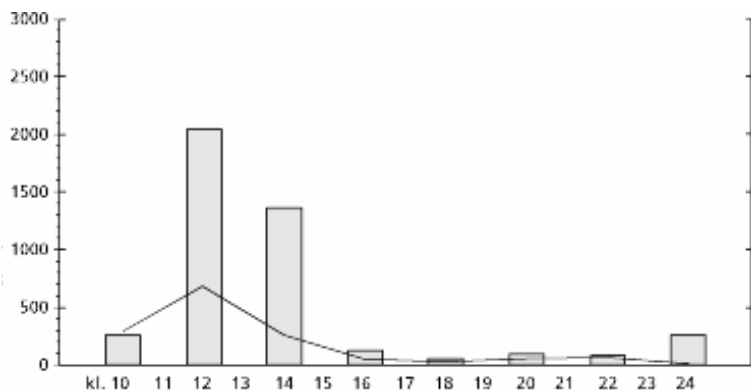
Line indicates winter while bars indicate summer.



**Table 7.109: PEDESTRIAN INTENSITY in Stortorget on Tuesdays.**

The bars/ lines show pedestrian use per hour.

Line indicates winter while bars indicate summer.



**Table 7.110: PEDESTRIAN INTENSITY in Østre torg on Saturdays.**

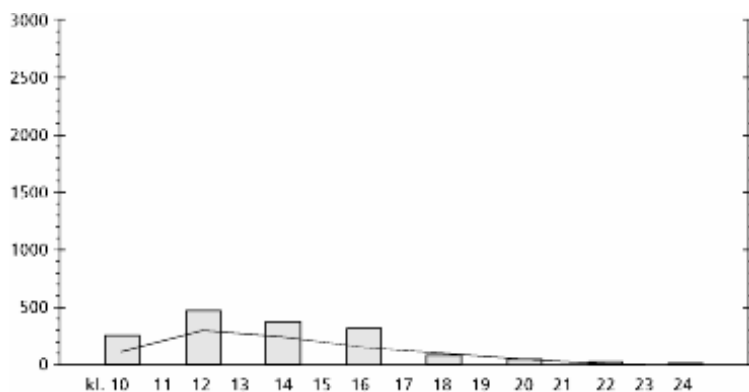
The bars/ lines show pedestrian use per hour.

Line indicates winter while bars indicate summer.

**The street as an extended road notion**

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

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**Table 7.111: PEDESTRIAN INTENSITY**

*in Østre Torg on Tuesdays.*

*The bars/ lines show pedestrian use per hour.*

*Line indicates winter while bars indicate summer.*

### *The street as an extended road notion*

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

## 7.2.7 Hamar: Torggata / Strandgata

Torggata and Strandgata are situated adjacently and parallel and have both commercial offers. As Torggata is ultimate arena for strolling and shopping being the natural pedestrian route between Stortorget and Østre Torg, Strandgata is a car transit route through the town of Hamar with occasional shops not having been fortunate enough to acquire premises in Torggata. An interesting question is how many people are attracted to Strandgata and why, especially in comparison to Torggata.

### **Social arena: Torggata**

- shopping street:



**Figure 7.32:**  
Map of Østre Torg  
Indicated with light  
blue and labelled 5.

Torggata is a pedestrian street, recently rehabilitated to the delight of both politicians and the public. Torggata is the natural choice for a Saturday stroll. Torggata has excellent conditions for urban activity, with a great variation of shops (all the chain stores are present), restaurants and indoor and outdoor cafés. The new design takes account for neat detailing and the provision for social gathering. The street is very accessible. What is a matter of confusion, however, is the apparent neglect of Triangelparken, a small park marking the bend in the street, representing a lost opportunity to create a magnificent urban space.

***The street as an extended road notion***

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

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**Figure 7.33:**  
*Torggata is the natural strolling route of Hamar, a natural place to meet other residents.*

According to the Hamar report Torggata has good conditions for activity and urban life. There are many shops, restaurants and cafés with outdoor catering that initiate urban life both during day- and night-time. The street has been carefully designed with facilities that initiate social activity and physical solutions of high aesthetical quality, adapted for urban activity. “Triangelparken”, an urban square in the middle of the street, has tremendous potential that is not exploited. The accessibility is good.



**The street as an extended road notion**

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

**Social arena: Strandgata**

- main street:



**Figure 7.34:**  
Map of Strandgata indicated green and labelled 4.

The assets of Strandgata are the shops and the greenery. Heavy traffic, narrow pavements and hardly any attractions in the evenings restrict social use. Strandgata is primarily a through traffic route with good accessibility for both cars and public transport. Its location adjacent to a south-facing green belt/ park indicates potentials for a future expansion of the pedestrian area.



**Figure 7.35:**  
Strandgata, a traffic route with shopping facilities and a green environment (Strandgateparken)

***The street as an extended road notion***

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

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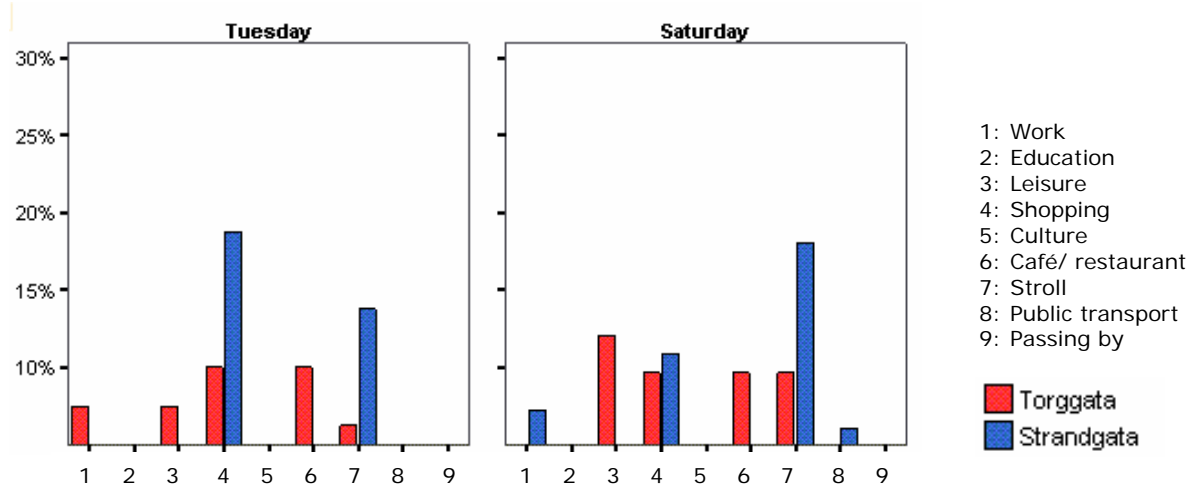
According to the Hamar report, a wide range of shops and the presence of Strandgateparken (Fig B89) represent the quality of Strandgata. The latter contributes strongly to give the street an appearance as a green and magnificent street. However, heavy traffic in combination with narrow pavements makes Strandgata unsuitable as a social arena. The street has its prime function as a traffic artery. No evening activities have been established here. The accessibility for cars and public transport is excellent and so are the parking facilities. Cyclists and pedestrians find themselves underprivileged compared to the car.



**The street as an extended road notion**

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

**A: Social Intent**



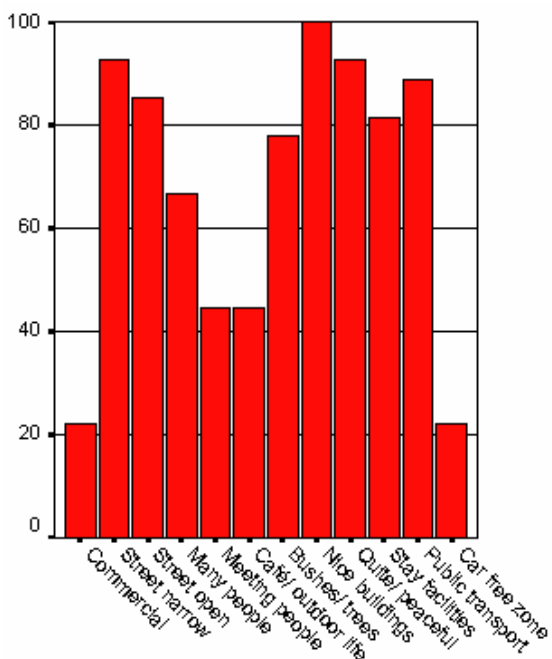
**Table 7.112: SOCIAL INTENT**

for Torggata and Strandgata registered on **Tuesdays** and **Saturdays** in **SUMMER**.  
 The bars show the social intent presented in percent in the interval 5-30%.

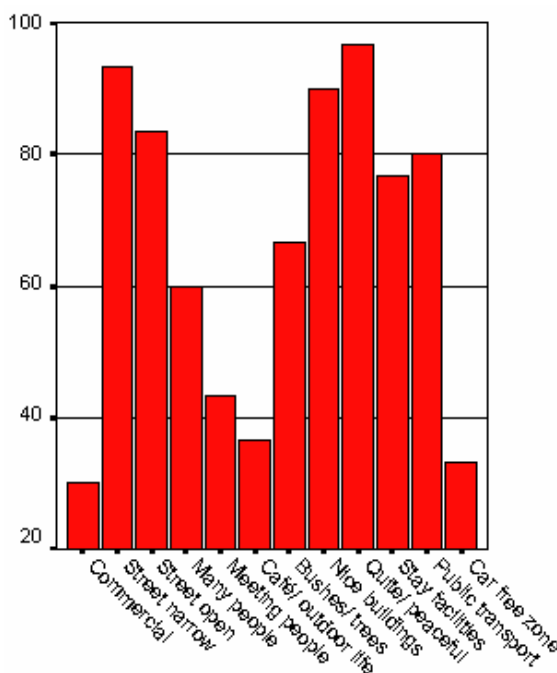
**The street as an extended road notion**

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

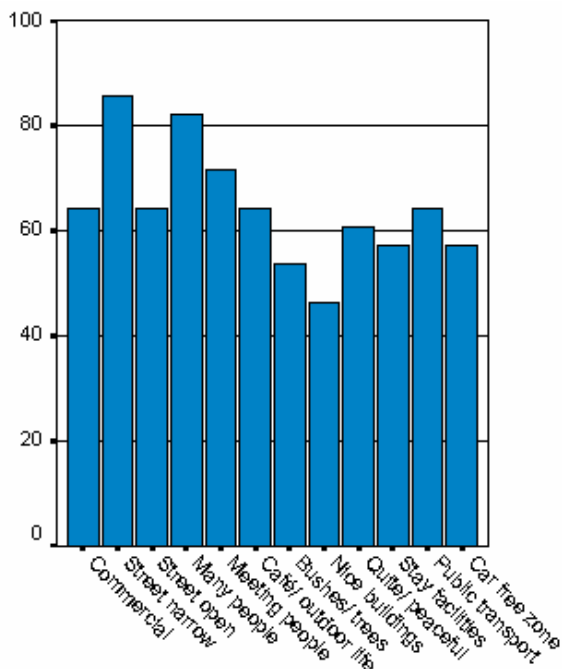
**B: Social Factors**



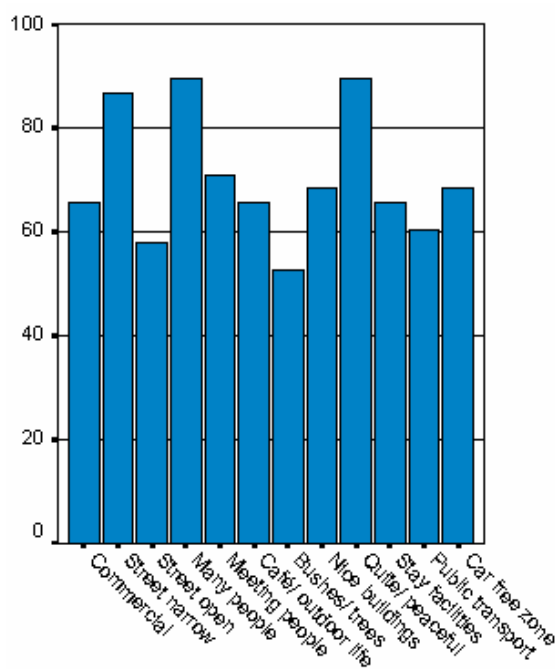
**Table 7.113: SOCIAL FACTORS** for **Torggata** registered on **Saturday**. The bars show percent values in the interval 0-100%. Plotted with categories “very appreciated” and “fairly appreciated”.



**Table 7.114: SOCIAL FACTORS ok** for **Torggata** registered on **Tuesday**. The bars show percent values in the interval 0-100%. Plotted with categories “very appreciated” and “fairly appreciated”.



**Table 7.115: SOCIAL FACTORS** for **Strandgaten** registered on **Saturday**. The bars show percent values in the interval 0-100%. Plotted with categories “very appreciated” and “fairly appreciated”.

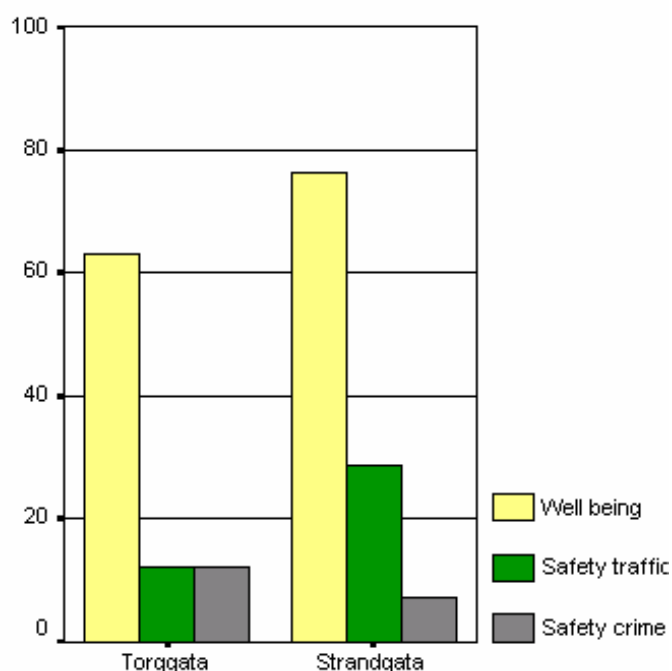


**Table 7.116: SOCIAL FACTORS** for **Strandgaten** registered on **Tuesday**. The bars show percent values in the interval 0-100%. Plotted with categories “very appreciated” and “fairly appreciated”.

**The street as an extended road notion**

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

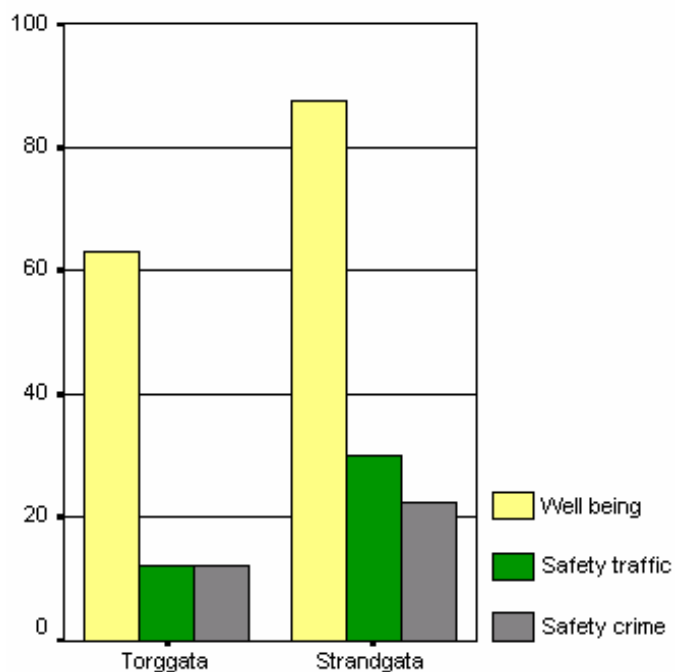
**C: Social Comfort**



**Table 7.117: SOCIAL COMFORT**

for Torggata and Strandgata registered on **Saturdays** in **SUMMER**.

The bars show the social intent presented in percent in the interval 0-100%.



**Table 7.118: SOCIAL COMFORT**

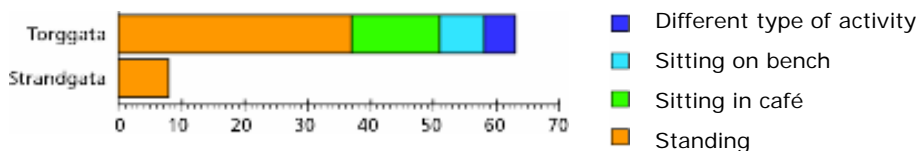
for Torggata and Strandgata registered on **Tuesdays** in **SUMMER**.

The bars show the social intent presented in percent in the interval 0-100%.

**The street as an extended road notion**

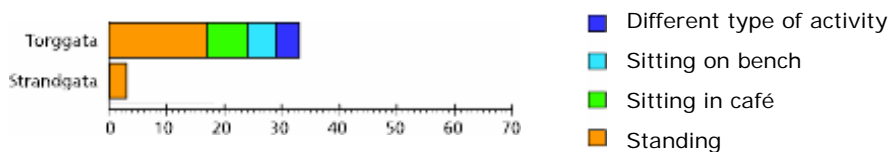
Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

**D: Social Activity**



**Table 7.119: SOCIAL ACTIVITIES**

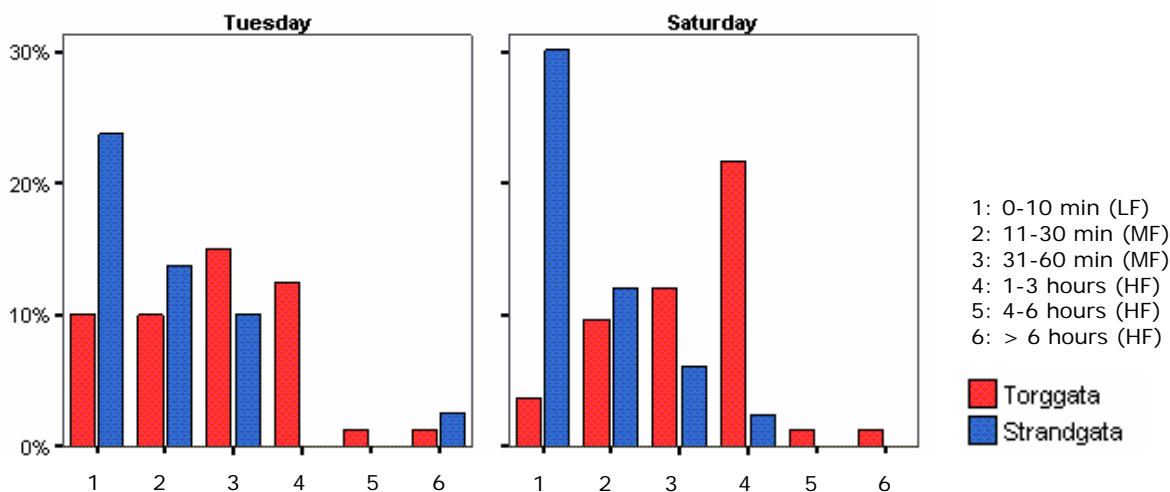
Mean number of social activities in Torggata and Strandgata, registered in **summer/ Saturdays** from 10 to 17.



**Table 7.120: SOCIAL ACTIVITIES**

Mean number of social activities in Østre torg and Stortorget, registered in **summer/ Tuesdays** from 10 to 17.

**E: Social Duration**



**Table 7.121: SOCIAL DURATION**

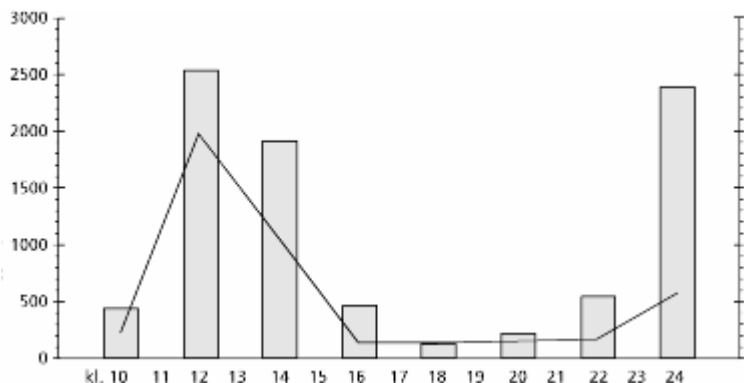
for Torggata and Strandgata registered on **Tuesdays** and **Saturdays** in **SUMMER**.

The bars show the social duration presented in percent in the interval 5-30%.

**The street as an extended road notion**

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

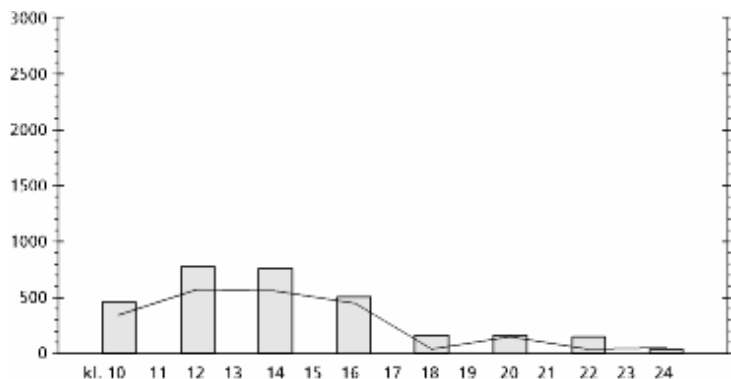
**F: Pedestrian Intensity**



**Table 7.122: PEDESTRIAN INTENSITY in Torggata on Saturdays.**

The bars/ lines show pedestrian use per hour.

Line indicates winter while bars indicate summer.



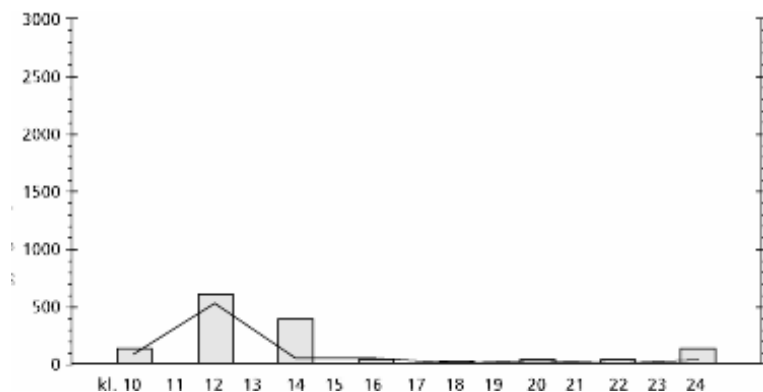
**Table 7.123: PEDESTRIAN INTENSITY in Torggata on Tuesdays.**

The bars/ lines show pedestrian use per hour.

Line indicates winter while bars indicate summer.

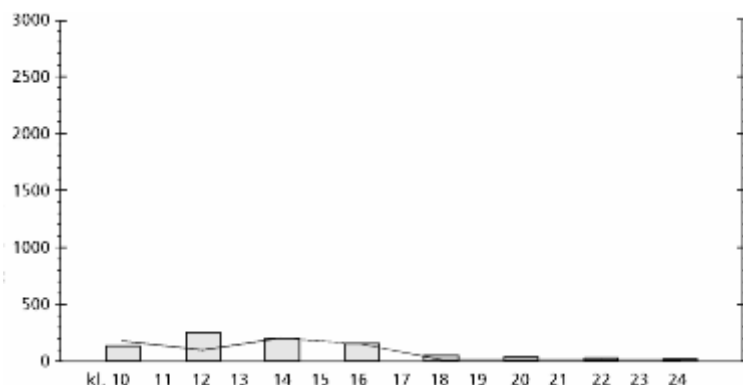
**The street as an extended road notion**

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)



**Table 7.124: PEDESTRIAN INTENSITY in Strandgata on Saturdays.**

The bars/ lines show pedestrian use per hour.  
Line indicates winter while bars indicate summer.



**Table 7.125: PEDESTRIAN INTENSITY in Strandgata on Tuesdays.**

The bars/ lines show pedestrian use per hour.  
Line indicates winter while bars indicate summer.



***The street as an extended road notion***

Part D: Local Empirical Research and Registration (Chapters 5, 6 and 7)

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**Part D:**  
**ANALYSIS**  
**AND**  
**CONCLUSIONS**

***The street as an extended road notion***  
Part D: Analysis and Conclusion (Chapters 8 & 9)

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Part A of this thesis introduced some seemingly accepted professional myths among many urban and street planners, that:

- A high (exceeding 8 000 AADT) motorized traffic volume, and the car in particular, constitutes a threat to social street activity.
- A high motorized traffic volume represents an environmental problem.
- Separation and differentiation of traffic is the sole solution to implement traffic safety.
- Public transport amounts to a good environment.

and:

- A physical environment of good aesthetical quality inevitably generates good social arenas and consequently a blooming social street life and a feel of well-being.

The first four myths are especially common among road engineers that adhere to the transport planning tradition after the 2<sup>nd</sup> World War. The latter myth is especially common among architects as a result of an uncompromising conviction in architectural quality as a generator for human well-being. The above-mentioned myths might be regarded as immaterial by most, but they are in fact restricting the planners who state them and fail to comprehend the true functional and social versatility of the urban scene, including streets and squares. The result is often inadequate planning procedure and poor solutions.

In part A these myths were interpreted into the following two hypotheses:

- 1. A motorized traffic volume does not restrict social street activity.***
- 2. Architectural attractiveness contributes insignificantly to social street activity.***

Part D: "Analysis and Conclusion" attempt to confirm or refute these hypotheses by:

- firstly, analysing the data presented data in Chapter 7 (Chapter 8), and
- secondly, concluding (Chapter 9).

# Chapter 8

## ANALYSIS

### 8.1 Analysis Parameters

To evaluate the presented data, the following [table](#) has been produced:

A		B	C	D	E	F
SOCIAL INTENT	SOCIAL ARENA	SOCIAL FACTORS	SOCIAL COMFORT	SOCIAL STREET ACTIVITY	SOCIAL DURATION	PEDESTR. INTENSITY

**Table 8.1:**  
*Summary of parameters*

The aim of the analysis is to assess how the variables “**motorized traffic volume**” and “**architectural attractiveness**” affects the determination of a human being to perform a social activity independent of the initial intention. In Chapter 6 these parameters were defined as follows:

**A: Social Intent** (Section 6.2): is defined as the initial intent of a person to perform an activity. This intent is leading towards a selection of a particular arena that might invite optional social street activity. The presented parameter describes the most typical types of social intent, attained by interviews. The parameters are differentiated as follows:

1. Education (necessary)
2. Leisure (optional/ social)
3. Shopping (necessary/ optional/ social)
4. Culture (optional/ social)
5. Café/ restaurant (optional/ social)
6. Stroll (optional/ social)
7. Public transport (necessary)
8. Passing by (necessary).

**Social Arena** (Section 6.3): is defined as a physical setting that might invite optional social street activity performed singly or with other people, derived from the UL program, being the destination according to an intent.

**B: Social Factor** (Section 6.4): is defined as the appreciated factors for staying in a particular area, attained by interviews. The parameters are differentiated as follows:

1. A good commercial and service offer (commercial/services)
2. The street is narrow and “intimate” (street being intimate)
3. The street is open and clearly set out (street open/clearly set)
4. Positive with many people (many people)
5. Possibility to meet people (meeting people)
6. A good café/restaurant offer (café/restaurant)
7. Bushes and trees (bushes and trees)
8. Nice buildings (nice buildings)
9. Quiet and peaceful (quiet and peaceful)
10. Good seating facilities (seating/ stay)
11. Good public transport facilities (public transport)
12. Positive with car-free zones (car-free zones)

**C: Social Comfort** (Section 6.5): is defined as the level of feeling well-being in a particular area presented by most typical type of social comfort, attained by interviews. The parameters are differentiated as follows:

1. The feeling of well-being
2. Safety regarding traffic
3. Safety regarding crime and violence,

distinguished into three categories: safe, medium safe and unsafe.

**D: Social Street Activity** (Section 6.6): is defined as the number of registered social activities in a certain time period, attained by plotting of activity by people. The type of activities plotted was as follows (with both summer and winter registration):

1. Sitting (bench, café, stairs, others)
2. Standing (bus stop, talking, window shopping, waiting)
3. Other types (work, exhibition)

***The street as an extended road notion***  
Part D: Analysis and Conclusion (Chapters 8 & 9)

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**E: Social Duration** (Section 6.7): is defined as the duration of the actual social street activity. The presented parameter describes the most typical duration of stay, attained by interviews. Six time interval categories were introduced:

1. 0-10 min
2. 11-30 min
3. 31-60 min
4. 1-3 hours
5. 4-6 hours
6. more than 6 hours

The parameter with the highest score is indicated in bold.

**F: Pedestrian Intensity** (Section 6.8): is defined as the total number of people, peak registration summer and winter attained by counting (Section 7.7). There are made registrations for both summer and winter.

**G: Social Performance Ratio** (Section 6.9): is defined as the ratio between Social Street Activity and Pedestrian Ratio in order to describe the portion of the pedestrians actually transform their transport activity into social activity independent on a generally high pedestrian intensity or social activity.

And additionally,

**H: Motorized Traffic Volume** is defined by the registered Motorized Traffic Volume, including public transport, in AADT.

**I: Architectural attractiveness** is defined as the Architectural Attractiveness of a certain street or a square derived by the UL-reports and subjective appraisal by the thesis.



## 8.2 Parametric Differentiation

Three parameters presented in Section 8.1 have been selected for the further analysis to reveal the relationship between social street activity and motorized traffic volume and architectural attractiveness, while the four remaining parameters (A, B, C and E) are important in supporting the conclusion. The three selected parameters are D, F and G:

	D	F	G	H	I
SOCIAL ARENA	SOCIAL STREET ACTIVITY	PEDESTR. INTENSITY	SOCIAL PERFORM. RATIO	MOTORIZED TRAFFIC VOLUME	ARCHITECTURAL ATTRACTIVENESS

**Table 8.2:**  
*Parameters for further analysis.*

In the following analysis these parameters has been differentiated into points so as to able to obtain a feasible comparison and parametric relationship. The differentiation procedure has been difficult as the four cities in the UL program are different, and the various arenas used in the analysis highly diverse especially with regard to pedestrian intensity. This makes an adequate comparison in many cases virtually impossible. The thesis has attempted to convert the factual figures for pedestrian intensity and social street activity into proportional figures based on the population of the four cities. However, this procedure might probably prove more confusing than using the factual figures. Thus, the introduction of the parameter “social performance ratio” indicate, as previously described, the factual social activity performance independent upon the level of pedestrian intensity and the corresponding social street activity volume. This parameter will to a high degree eliminate the wide distinction in registered data, although if such cases are especially evident, this will be explained and accounted for in the conclusions.

The differentiations are as follows:

**D: Social Street Activity** is differentiated into three score categories:

- Low activity:**                    **1: 0 – 30 persons**  
**Medium activity:**            **2: 0 – 100 persons**  
**High activity:**                **3: > 100 persons**

The differentiation is based on the object of obtaining an even distribution of scores; consequently a high social street activity of 100 people per plot might be low in some arenas and high in others, depending on the city and the actual location.

**F: Pedestrian Intensity** is differentiated into three score categories:

- Low intensity:**                **1: 0 – 300 persons**  
**Medium intensity:**         **2: 300 – 1 000 persons**  
**High intensity:**              **3: > 1 000 persons**

Again, the differentiation is based on the object of obtaining an even distribution of scores. However, a pedestrian intensity of 1 000 people per hour might be considered as high also in Oslo, although some places have far more pedestrian traffic, Jernbanetorget in Oslo being the ultimate location with approximately 150 000 people waiting for some sort of public transport a day.

**G: Social Performance Ratio** is differentiated into three score categories:

- Low ratio:**                    **1: 0 – 5%**  
**Medium ratio:**              **2: 5 – 15%**  
**High ratio:**                 **3: > 15%**

Again, the differentiation is based on the object of obtaining an even distribution of scores. 15% is therefore selected as a high ratio although some places, not many, have a much higher score.

**H: Motorized Traffic Volume** is differentiated into three score categories:

<b>Low volume:</b>	<b>1: 0 – 5 000 AADT</b>
<b>Medium volume:</b>	<b>2: 5 000 – 8 000 AADT</b>
<b>High volume:</b>	<b>3: 8 000 – 20 000 AADT</b>
<b>Very high volume:</b>	<b>3+: &gt; 20 000 AADT</b>

As previously discussed motorized traffic volume is a relative notion and traffic is experienced very differently from one person to another. Therefore 5 000 AADT might be regarded as high by some. 8 000 AADT is set within the high volume category due to the fact that this is the level regarded as high in a recent R&D-program “Street with High Traffic” <sup>D1</sup>. In general road-and street planning 8 000 AADT is regarded as high. A fourth category is introduced here to specify streets/squares with exceptional high motorized traffic, here defined as 20 000 AADT.

**I: Architectural attractiveness** is differentiated into three score categories:

<b>Low attractiveness:</b>	<b>1</b>
<b>Medium attractiveness:</b>	<b>2</b>
<b>High attractiveness:</b>	<b>3</b>

As previously described architectural attractiveness is determined from quotations from the UL program reports and subjective, professionally based, assessment by this thesis.

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<sup>D1</sup> Program launched by the National Road Administration in 2004 as part of the main R&D-program “Transport in Cities”.

## 8.3 Individual Evaluations

As presented in Section 7.2, 14 of the total number of 27 study areas presented in the UL program have been selected for further analysis - 8 streets and 6 squares. The streets / squares are presented in pairs to optimally illustrate similarities or differences. These study areas were described as follows:

Section 8.4:

**Youngstorget and Stortorvet**, Oslo (Section 7.2.1)

Section 8.5:

**Torggata (southern part) and Storgata**, Oslo (Section 7.2.2)

Section 8.6:

**Olav Tryggvasons gate and Fjordgata**, Trondheim (Section 7.2.3)

Section 8.7:

**Vågsbunnen and Strandgaten**, Bergen (Section 7.2.4)

Section 8.8:

**Torgallmenningen and Bryggen**, Bergen (Section 7.2.5)

Section 8.9:

**Stortorget and Østre Torg**, Hamar (Section 7.2.6)

Section 8.10:

**Torggata and Strandgata**, Hamar (Section 7.2.7)

## 8.4 Oslo: Youngstorget/ Stortorvet

### 8.4.1 Summary of Data

(derived from Tables 7.1 – 7.17, Section 7.3.1)

For Youngstorget/ Stortorvet the following data are registered:

SOCIAL ARENA	A SOCIAL INTENT	B SOCIAL FACTORS	C SOCIAL COMFORT	D SOCIAL ACTIVITY Plot mean (peak)	E SOCIAL DURATION	F PEDEST. INTENSITY Per hour mean (peak)
<b>Saturday</b>						
Youngstorget	<b>Passing by</b> Culture	<b>Street narrow</b> Meeting people Quite/ peace	<b>Well-being</b>	<b>111 s</b> (148 s) <b>13 w</b> (19 w)	<b>0-10 min</b> 11-30 min	<b>246 s</b> (450/ 12 am) <b>279 w</b> (600/ 1 pm)
Stortorvet	<b>Shopping</b> Passing by Café/ resto Public transp.	<b>Seating</b> Meeting people Café/ resto Nice buildings	<b>Well-being</b>	<b>103 s</b> (110 s) <b>52 w</b> (70 w)	<b>0-10 min</b> 1-3 hours 11-30 min 31-60 min	<b>656 s</b> (1125/ 12 am) <b>475 w</b> (1050/ 12 am)
<b>Tuesday</b>						
Youngstorget	<b>Passing by</b> Work Culture	<b>Street narrow</b> <b>Meting people</b> Café/ resto Many people	<b>Well-being</b> Safety crime	<b>96 s</b> (102 s) <b>16 w</b> (18 w)	<b>0-10 min</b> 11-30 min	<b>277 s</b> (500/ 4 pm) <b>306 w</b> (600/ 4 pm)
Stortorvet	<b>Shopping</b> Passing by Work Culture	<b>Car-free zone</b> Street narrow Quite/ peace Seating Bushes & trees Meeting people Many people	<b>Well-being</b> Safety crime Safety traffic	<b>69 s</b> (85 s) <b>50 w</b> (50 w)	<b>0-10 min</b> 11-30 min 1-3 hours 31-60 min	<b>406 s</b> (700/ 3 pm) <b>442 w</b> (900/ 4 pm)

**Table 8.3:**

**SUMMARY OF DATA** for Youngstorget and Stortorvet, Saturdays and Tuesdays. Columns **D** and **E** with summer (s) and winter (w) registrations. Columns **B-D** and **F** with summer registrations with mean values. Order of categories according to score with the highest score indicated in bold. S= summer, W= winter.

## 8.4.2 Social Intent (A)

SOCIAL ARENA	A SOCIAL INTENT
<b>Saturday</b>	
<b>Youngstorget</b>	<b>Passing by</b> Culture
<b>Stortorvet</b>	<b>Shopping</b> Passing by Café/ resto Public tran.
<b>Tuesday</b>	
<b>Youngstorget</b>	<b>Passing by</b> Work Culture
<b>Stortorvet</b>	<b>Shopping</b> Passing by Work Culture

**Table 8.4:**  
*Social intent,  
Youngstorget and  
Stortorvet*

There is a distinct difference between Youngstorget and Stortorvet with regard to social intent. As “passing by” is registered as the most common cause for visiting Youngstorget, “shopping” is the attracting factor for Stortorvet. This applies to both Saturdays and Tuesdays. As Youngstorget has no major shopping facilities except some specialist shops, the main shopping attraction of Stortorvet is undoubtedly Glasmagasinet, a major shopping centre with a varied assortment of shops. Furthermore, the key chain stores, like for instance H&M, are located adjacent to the square. However, Stortorvet also scores on “passing by” being the entrance to the hectic Karl Johans gate for the inhabitants of the east city centre (basically the Grünerløkka area) having passed by Youngstorget on their pedestrian route. Both arenas, particularly Youngstorget, score on “culture” probably referring to the cultural heritage represented by architectural features and historical merits.



### 8.4.3 Social Factors (B)

SOCIAL ARENA	B SOCIAL FACTORS
<b>Saturday</b>	
<b>Youngstorget</b>	<ul style="list-style-type: none"> <li>- Street narrow</li> <li>- Meeting people</li> <li>- Quiet/ peace</li> </ul>
<b>Stortorvet</b>	<ul style="list-style-type: none"> <li>- Seating</li> <li>- Meeting people</li> <li>- Café/ resto</li> <li>- Nice buildings</li> </ul>
<b>Tuesday</b>	
<b>YoungsTorget</b>	<ul style="list-style-type: none"> <li>- Street narrow</li> <li>- Meeting people</li> <li>- Café/ resto</li> <li>- Many people</li> </ul>
<b>Stortorvet</b>	<ul style="list-style-type: none"> <li>- Car-free zone</li> <li>- Street narrow</li> <li>- Quiet/ peace</li> <li>- Seating</li> <li>- Bushes &amp; trees</li> <li>- Meeting people</li> <li>- Many people</li> </ul>

**Table 8.5:**  
*Social factors, Youngstorget and Stortorvet*

There are also similarities between Youngstorget and Stortorvet with regard to social factors on both Saturdays and Tuesdays. Both on Saturdays and Tuesdays Youngstorget scores on “Street Narrow” meaning that the respondents interpret the square as intimate. The possibility of “Meeting People” is also an appreciated feature. However, the social factors for Stortorvet are more diverse. Saturdays is characterized by leisurely activities as factors like “Seating”, “Meeting people” and “Café/ resto” are the most appreciated features. As few, if any, facilities for seating and outdoor catering are located within Stortorvet itself, such positive receptions might refer to Domkirkeparken which is located in the backyard of Domkirken, although no

registrations were carried out on this particular setting. Thus, it seems that social activities in Stortorvet might be associated with Domkirkeparken which is a unique social arena in Oslo, being the perfect setting for a peaceful retreat to enjoy an espresso from one of the coffee bars. Youngstorget lacks such a vital asset. The factor “Car-free zone” (highest score cars AADT on Tuesdays) might also be associated with Domkirkeparken as the core of Stortorvet is surrounded by 7 000 vehicles AADT.

### 8.4.4 Social Comfort (C)

SOCIAL ARENA	C SOCIAL COMFORT
<b>Saturday</b>	
Youngstorget	Well-being
Stortorvet	Well-being
<b>Tuesday</b>	
Youngstorget	Well-being - Safety crime
Stortorvet	Well-being - Safety crime - Safety traffic

There is a unilateral opinion about social comfort in Youngstorget and Stortorvet, namely that all respondents feel well both places. Registrations of “Safety traffic” are recorded in Stortorvet on Tuesdays.

**Table 8.6:**  
*Social comfort, Youngstorget and Stortorvet*

### 8.4.5 Social Duration (E)

SOCIAL ARENA	E SOCIAL DURATION
<b>Saturday</b>	
Youngstorget	0-10 min 11-30 min
Stortorvet	0-10 min 1-3 hours 11-30 min 31-60 min
<b>Tuesday</b>	
Youngstorget	0-10 min 11-30 min
Stortorvet	0-10 min 11-30 min 1-3 hours 31-60 min

The general performance for both social arenas is 0-10 minutes. Youngstorget has registered visitors staying up to 30 minutes and Stortorvet has registered visitors staying up to 3 hours. Stortorvet has a relatively high social performance **(F)** probably due to its closeness to Karl Johans gate and Domkirkeparken, its unique vegetable and fruit market, the availability for public transport and good commercial offers.

**Table 8.7:**  
*Social duration, Youngstorget and Stortorvet*

## 8.4.6 Social Performance Ratio (G)

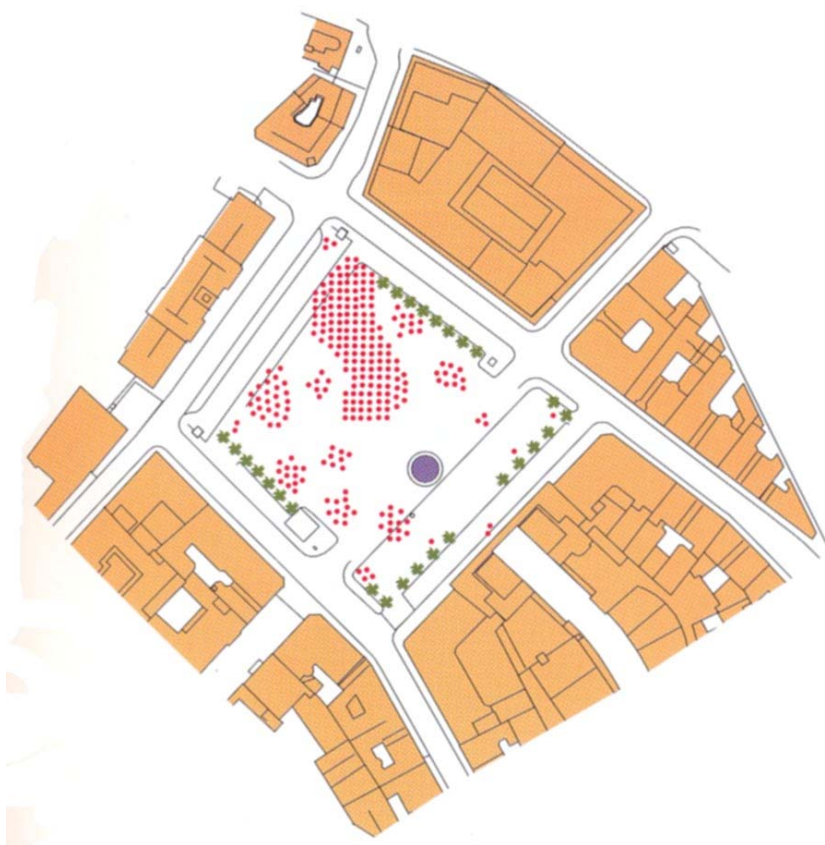
### Social Street Activity

Data for Social Street Activity is derived by counting on:

- three summer Saturdays
- one winter Saturday
- four summer Tuesdays
- one winter Tuesday

and presented as the mean value of 12 registrations in two periods::

10.00 am- 7.00 pm and , 7.00 pm- 10.00 pm



**Figure 8.1:**

*A situational description of the whereabouts of street users in Youngstorget on Saturday 7<sup>th</sup> September 1996 at 4 pm. The blue circle illustrates the new fountain. One red dot indicates one human being according to plot.*

*Map is not in scale.*

Social street activity has a relatively high score in Youngstorget although being apparent summer phenomenon in this arena. In Stortorvet social street activity is lower although with less divergence between summer and winter use.

As indicated by situational description illustrated in Fig 8.2 and Fig 8.3 social street activity is primarily linked to establishments or functions: In Youngstorget to market stalls and a café, in Stortorvet to tram stops in Grensen and in Domkirkeparken to other popular cafés.

## **Pedestrian Intensity**

Data for Pedestrian Intensity is derived by counting on:

- three summer Saturdays
- one winter Saturday
- four summer Tuesdays
- one Winter Tuesday

and presented as the mean value of 12 registrations at the following times:

10.00 am, 11.00 am, 12.00 am, 1.00 pm, 2.00 pm, 3.00 pm, 4.00 pm, 5.00 pm, 6.00 pm, 7.00 pm, 8.00 pm and 9.00 pm.

The pedestrian intensity follows a general pattern during daytime for Youngstorget and Stortorvet both Saturdays and Tuesdays, with a peak at 12 am - 1 pm on Saturdays and 3-4 pm on Tuesdays for both squares as expected. The difference in pedestrian intensity between summer and winter is insignificant although the winter intensity is generally higher except Stortorvet on Saturdays. On both Saturdays and Tuesdays Stortorvet has over twice as high pedestrian intensity as Youngstorget. For instance, on Saturdays Youngstorget has 36% pedestrian intensity compared to Stortorvet during summer and 62% during winter. For Tuesdays, Youngstorget has 66% pedestrian intensity compared to Stortorvet during summer and 63% for winter.

**The street as an extended road notion**  
Part D: Analysis and Conclusion (Chapters 8 & 9)

## Summary of Data

The following data derive from Section 8.4.1:

SOCIAL ARENA	D SOCIAL ACTIVITY Plot mean (peak)	F PEDEST. INTENSITY Per hour mean (peak)	G SOCIAL PERFORMANCE RATIO D/F
<b>Saturday</b>			
Youngstorget	111 s (148 s) 13 w (19 w)	246 s (450/ 12 am) 279 w (600/ 1 pm)	45,1 % s  4,7 % w
Stortorvet	103 s (110 s) 52 w (70 w)	656 s (1125/ 12 am) 475 w (1050/ 12 am)	15,7 % s  10,9 % w
<b>Tuesday</b>			
Youngstorget	96 s (102 s) 16 w (18 w)	277 s (500/ 4 pm) 306 w (600/ 4 pm)	34,7 % s  5,2 % w
Stortorvet	69 s (85 s) 50 w (50 w)	406 s (700/ 3 pm) 442 w (900/ 4 pm)	17,0 % s  11,3 % w

**Table 8.8:**  
*Social Performance Ratio for Youngstorget and Stortorvet;*  
**S** indicating summer and **w** indicating winter.

Converted into points the summer data are as follows:

SOCIAL ARENA	D SOCIAL ACTIVITY Plot mean	F PEDEST. INTENSITY Per hour mean	G SOCIAL PERFORMANCE RATIO D/F
<b>Saturday</b>			
Youngstorget	3	1	3
Stortorvet	3	2	3
<b>Tuesday</b>			
Youngstorget	2	1	3
Stortorvet	2	2	3

**Table 8.9:**  
*Data for Social Street Activity, Pedestrian Intensity and Social Performance Ratio for Youngstorget and Stortorvet converted into scores.*  
*Summer registrations only.*

Table 8.9 shows that the pedestrian intensity in Youngstorget is low while Stortorvet has a medium score, both Saturdays and Tuesday. On Saturdays both arenas have a high social street activity while the activity on Tuesdays is medium high. Both arenas have a high social performance ratio, a natural consequence of a relatively high social street activity compared to pedestrian intensity. Thus, both Youngstorget and Stortorvet with the adjacent Domkirkeparken is regarded as social arenas.

## Summary

Despite a relatively high pedestrian intensity and social street activity in Stortorget, there are few people that actually “settle down” to perform social street activities within the square (within the surrounding streets). The case is the direct opposite for Youngstorget that according to the summer Saturday registration has 36% of the pedestrian use of Stortorget but 84 % more social activities. However, the winter situation has the opposite result as Youngstorget has 62 % less pedestrian intensity and 30 % less social street activity compared with Stortorget.

The typical visitors to Stortorget have their main initial intention of shopping and public transport as their appreciating factor for their visit, move elsewhere (for instant Karl Johans gate and Domkirkeparken) to perform social activities. The visitor to Youngstorget, however have their main initial intention of passing by, are attracted by the intimacy of the square, the seating and the general facilities that promote social activity and decide to stay, not for long, but long enough to be registered as performers of social activities.

Factual registrations and subjective observations and analysis indicate that Youngstorget and Stortorget have a relatively high social street activity, and both arenas might be regarded as typical social arenas as the social performance ratio is high both places.



## 8.4.7 Social Street Activity versus Motorized Traffic Volume

### Motorized traffic Volume/ *Youngstorget*



**Figure 8.2:**

*Youngstorget with surrounding area. Map is not in scale. Eva Kolstads gate is located between Youngstorget and Møllergata.*

Youngstorget is influenced by five streets that are accessible for car traffic with the following motorized traffic volume (AADT):

- Møllergata: 4 500 approx (registered 1992)
- Youngsgata: 1 000 approx (no data, assumed)
- Eva Kolstads gate <sup>D2</sup>: 1 000 approx (no data, assumed)
- Youngstorget: 500 approx (no data, assumed)

giving a total car traffic volume at approximately 7 000 AADT. However, due to topographical conditions the car traffic in Møllergata, Pløens gate and Youngs gata has modest effect on the social activity within the square. The motorized traffic in the actual Youngstorget is limited to the odd 500 cars a day fighting for a parking spot in the south-east part of the square, leaving the main square basically car-free.

<sup>D2</sup> *Eva Kolstads gate is the continuation of Pløens gate.*

## Motorized Traffic Volume/ Stortorvet



**Figure 8.3:**  
 Stortorvet with car traffic volume in AADT. Map is not in scale.

Stortorvet is surrounded by four streets all accessible to car traffic with the following car traffic volume (AADT):

- Møllergata: 3 700 approx (registered 1991)
- Grensen/ Stortorvet: 4 700 approx (registered 1993)
- Kirkegata: 3 300 approx (registered 1998/ 1999)
- Stortorvet: 1 300 approx (no data, assumed),

giving a total car traffic volume at approximately 13 000 AADT. This might be described as a relatively high traffic volume for such a concentrated urban space. There is a taxi stop in Kirkegata outside Domkirken contributing to a relatively chaotic traffic situation. In addition to car traffic there are three tram lines (line 11, 17 & 19) in Grensen/ Stortorvet with 5 minute intervals each, representing a tram stop every 50 seconds.

**The street as an extended road notion**  
Part D: Analysis and Conclusion (Chapters 8 & 9)

**Summary of Data**

SOCIAL ARENA	B SOCIAL FACTORS	C SOCIAL COMFORT	D SOCIAL ACTIVITY Plot mean (peak)	F PEDEST. INTENSITY Per hour mean (peak)	H* MOTORIZED TRAFFIC VOLUME AADT
<b>Saturday</b>					
Youngstorget	- Street narrow - Meeting people - Quiet/ peace	<b>Well-being</b>	<b>111 s</b> (148 s) <b>13 w</b> (19 w)	<b>246 s</b> (450/ 12 am) <b>279 w</b> (600/ 1 pm)	<b>0/ 7 000</b>
Stortorvet	- Seating - Meeting people - Café/ resto - Nice buildings	<b>Well-being</b>	<b>103 s</b> (110 s) <b>52 w</b> (70 w)	<b>656 s</b> (1125/ 12 am) <b>475 w</b> (1050/ 12 am)	<b>13 000</b>
<b>Tuesday</b>					
Youngstorget	- Street narrow - Meeting people - Café/ resto - Many people	<b>Well-being</b> - Safety crime	<b>96 s</b> (102 s) <b>16 w</b> (18 w)	<b>277 s</b> (500/ 4 pm) <b>306 w</b> (600/ 4 pm)	<b>0/ 7 000</b>
Stortorvet	- Car-free zone - Street narrow - Quiet/ peace - Seating - Bushes &- trees - Meeting people - Many people	<b>Well-being</b> - Safety crime - Safety traffic	<b>69 s</b> (85 s) <b>50 w</b> (50 w)	<b>406 s</b> (700/ 3 pm) <b>442 w</b> (900/ 4 pm)	<b>13 000</b>

**Table 8.10:**

**SUMMARY OF FACTUAL DATA**

for Youngstorget and Stortorvet, Saturdays and Tuesdays.

Columns **D** and **F** with summer (s) and winter (w) registrations.

Order of categories according to score with the highest score indicated in bold.

\* AADT in column **H** does not differentiate between week days.

Converted into points the summer data are as follows:

SOCIAL ARENA	D SOCIAL ACTIVITY Plot mean (peak)	F PEDEST. INTENSITY Per hour mean (peak)	G SOCIAL PERFORMANCE RATIO D/F	H MOTORIZED TRAFFIC VOLUME
<b>Saturday</b>				
Youngstorget	<b>3</b>	<b>1</b>	<b>3</b>	<b>0</b>
Stortorvet	<b>3</b>	<b>2</b>	<b>3</b>	<b>3</b>
<b>Tuesday</b>				
Youngstorget	<b>2</b>	<b>1</b>	<b>3</b>	<b>0</b>
Stortorvet	<b>2</b>	<b>2</b>	<b>3</b>	<b>3</b>

**Table 8.11:**

**SUMMARY OF DATA CONVERTED INTO POINTS**

Relationship between Social Activity, Pedestrian Intensity, Social Performance Ratio and **Motorized Traffic Volume** for Youngstorget and Stortorvet.

Summer registrations only.

## Summary

For both Youngstorget and Stortorvet the actual market area of the squares are car-free. However, as Youngstorget is physically separated from motorized traffic on three sides, the market area in Stortorvet is set as an “island” surrounded by streets open for car traffic on all four sides. Thus motorized traffic is evidently more apparent in Stortorvet, creating a relatively strong physical impact on social activity than is the case of Youngstorget, especially by trams. One might therefore ponder why “car-free zone” is registered as the most appreciated factor for Stortorvet on Tuesdays. Yet again, the closeness and the association with Domkirkeparken might be one explanation for this besides the fact that the inner area of the square actually is car-free.

Nevertheless, there is a fact that a relatively high proportion of the transport pedestrians passing Youngstorget seem to stay on for a social break (some of them for long) and that the visitors of Stortorvet with the intention of shopping do not find the square suitable for social activities might be explained by the impact of motorized traffic. The presence of parked cars, a tram stop every 50 seconds and a motorized traffic volume of 13 000 AADT does not correspond with social recreation while the car-free Karl Johans gate and the picturesque Domkirkeparken are located a stone-throw away. Still, most respondents feel well within the squares, both with regard to traffic and crime.

Though, it is important to stress that the registered social street activity within the square of Stortorget actually is generated from public transport as most of the respondents in fact are waiting for the tram to arrive (Fig 8.4) <sup>D3</sup>. Thus, in the case of the present physical function (and appearance) of Stortorget square motorized traffic is actually generating social street activity rather than a restricting factor. However, without no motorized traffic, and especially the tram, the square could have easily

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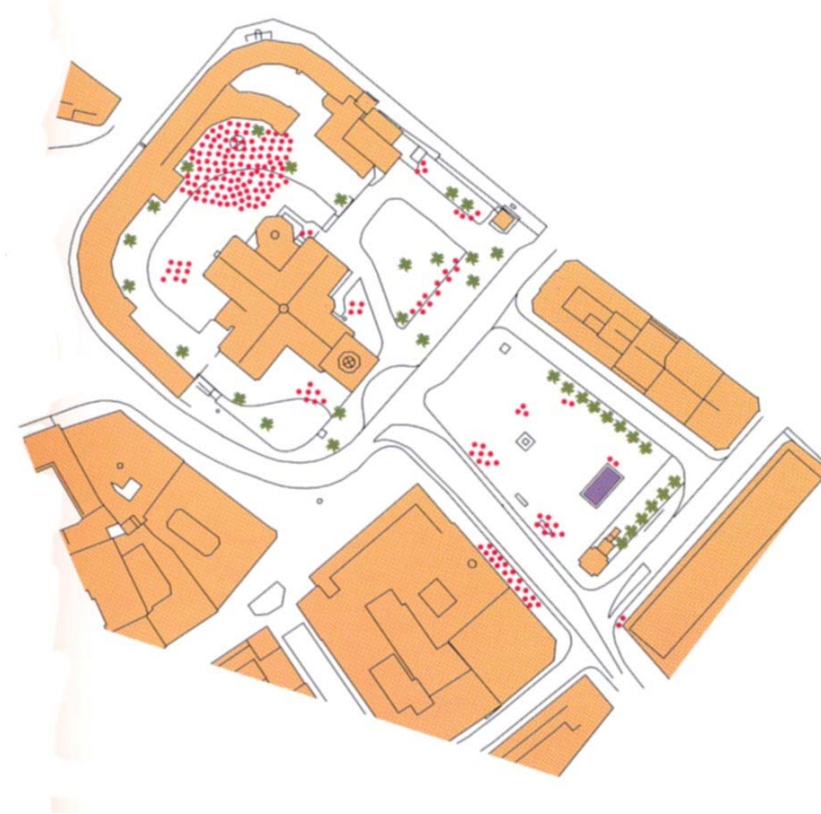
<sup>D3</sup> *with the present increased offer of 5 min departure these respondents would probably not have registered.*



**The street as an extended road notion**  
Part D: Analysis and Conclusion (Chapters 8 & 9)

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been converted into a blooming arena with outdoor catering facilities along the south-facing north façade to replace the high number of inpatient public transport users.



**Figure 8.4:**

*A situational description of the whereabouts of street users in Stortorget/  
Domkirkeparken on Saturday 7<sup>th</sup> September 1996 at 4 pm.*

*Red dots indicating human beings performing social street activities. In Stortorget  
these are primarily waiting for public transport.*

*Map is not in scale.*

Factual registrations and subjective observations and analysis indicate that motorized traffic volume is both a contributing factor to restrict and to generate social street activity in Stortorget, but the absence of car traffic is much appreciated in Domkirkeparken and Youngstortget.

## 8.4.8 Social Street Activity versus Architectural Attractiveness

### Architectural attractiveness/ Youngstorget

According to the Oslo report, Youngstorget is a large urban space with interesting physical limitations due to variations in building heights, building types and especially the variation in vertical levels, the latter being connected by two streets (Youngs gate and Eva Kolstads gate) and a stairway with poor accessibility. Four major architectural features of the square are represented by:



**Figures 8.5 - 8.8:**  
 Significant buildings in Youngstorget:  
 A: Folketeater-bygningen,  
 B: Møllergata 19 with the market halls,  
 C: the market halls,  
 D: The Trades Union Building (LO).



**The street as an extended road notion**

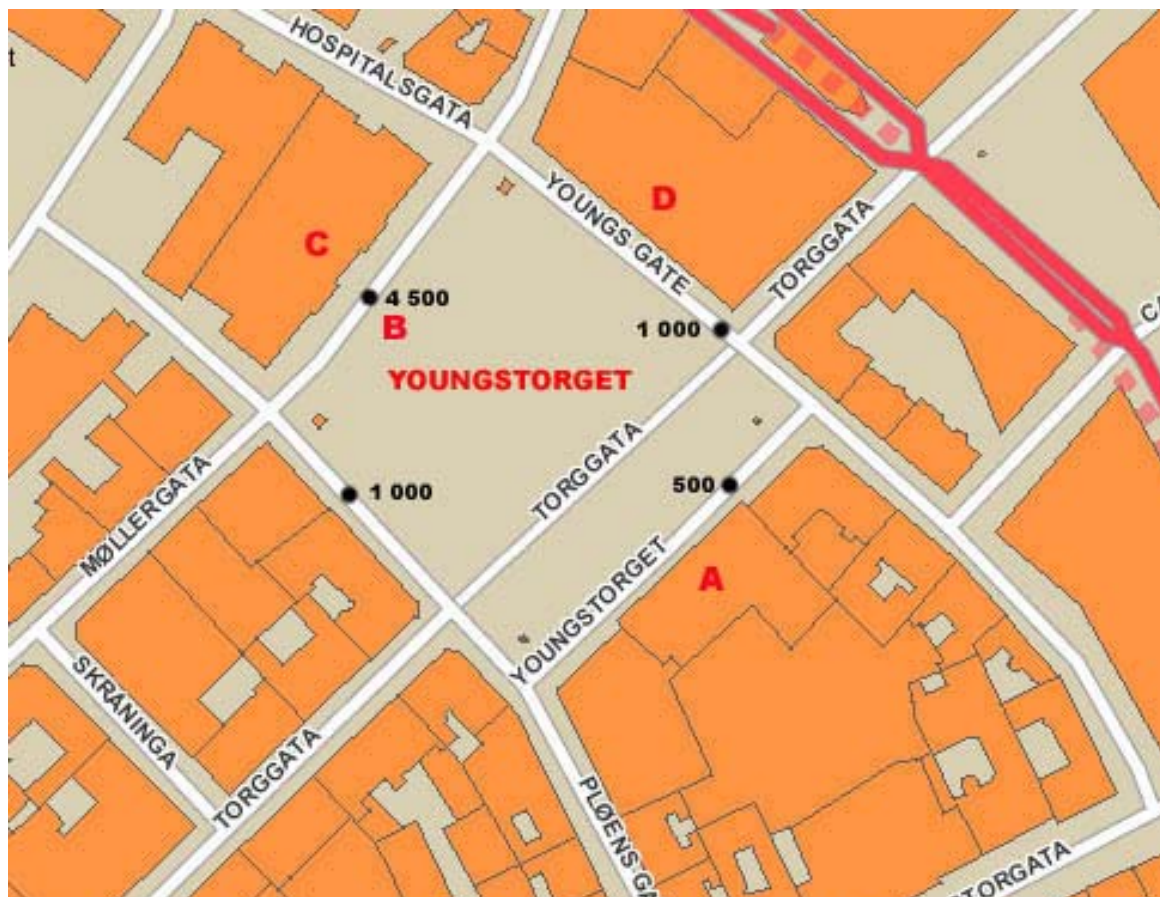
Part D: Analysis and Conclusion (Chapters 8 & 9)

A. The “Folketeater” building <sup>D4</sup>, the 12 story bastion of the Labor Party, designed by architects Morgenstjerne & Eide in 1926 and erected in 1935- an architectural symbiosis between New Classicism, Art Deco and Functionalism, located axially opposite:

B. The spectacular market hall <sup>D5</sup>, designed by architect J. W. Nordan in 1866 and built in 1877-78, forming the basement for:

C. The former city center police station, Møllergata 19 <sup>D6</sup>. This is not a spectacular architectural masterpiece, but a building with an extraordinary symbolic value; designed by architect J. W. Nordan in 1866, converted into public offices in 1981.

D. Folkets Hus, the 10 story modernistic headquarters of the Trades Union, designed by architect Knut Knutsen and erected in 1956.



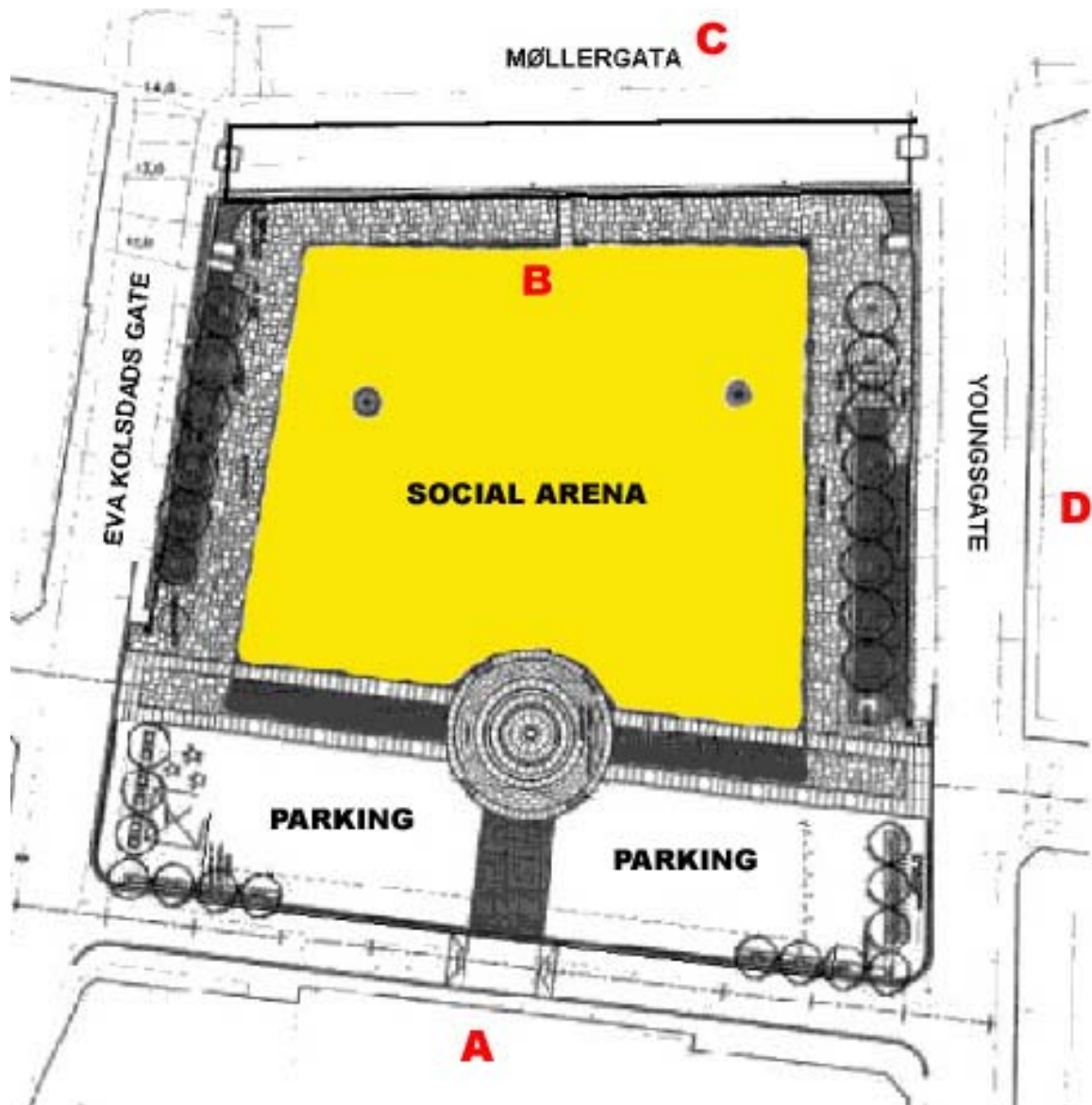
**Figure 8.9:**

Map indicating buildings of particular importance as illustrated in Fig9.7-9.10.

<sup>D4</sup> “Oslo – en arkitekturguide”, Universitetsforlaget 1984, p 39

<sup>D5</sup> “Oslo – en arkitekturguide”, Universitetsforlaget 1984, p 39

<sup>D6</sup> “Oslo – en arkitekturguide”, Universitetsforlaget 1984, p 39



**Figure 8.10:**  
*Simple illustration plan of the rehabilitation of Youngstorget with the fountain situated within the circle in Torgata.*

Youngstorget is a relatively large urban space. The actual social arena <sup>D7</sup> is limited to the area (indicated with yellow in Fig 8.10 above) surrounded by the market hall to the north (B), to the street ramps of Youngs gata and Eva Kolstads gate to the east and west and to Torgata to the south. The remaining part of the square is reserved for parking. The street ramps of Youngs gata and Eva Kolstads gate start from

<sup>D7</sup> The area is indicated in yellow in Fig 8.10.

**The street as an extended road notion**  
Part D: Analysis and Conclusion (Chapters 8 & 9)

Torgata at level 0 m and rise to Møllergata at level 10.0 m (approx). Consequently the actual social arena has no architectural limitation except the market hall and the “street ramps”, giving the urban space an indistinct visual impression and modest intimacy. However, the actual square has one obvious advantage as the social arena is 100% car-free and the urban space is physically defined.

## Architectural attractiveness/ Stortorvet

According to the Oslo report, Stortorvet is a complex urban space, directly linked to Domkirken (the principal church in Oslo) and its back yard representing a sheltered oasis in the area, with rich vegetation and small, popular cafés serving cappuccinos to tourists and gallery visitors. Three major architectural features of the square are represented by:



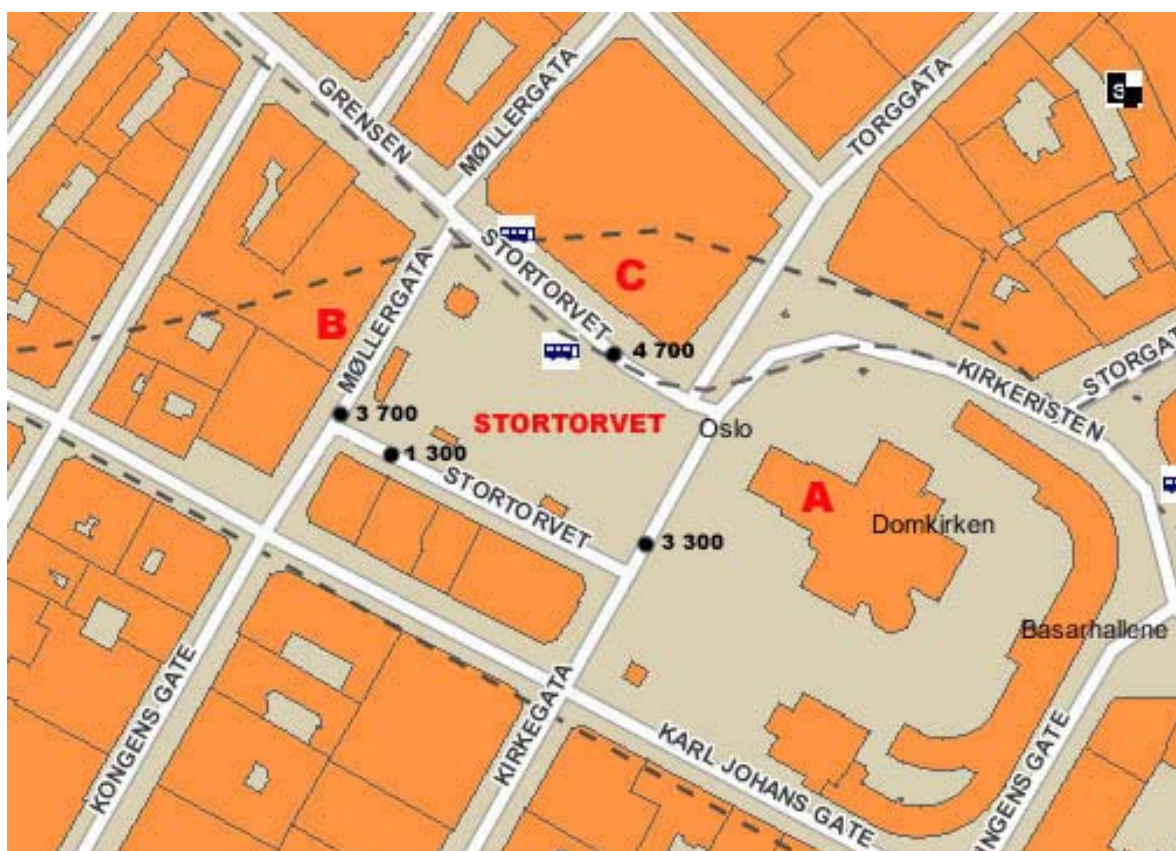
**Figures 8.11 - 8.13:**  
*Significant buildings in Stortorvet:*  
A: Oslo Domkirke.  
B: Kreditkassen.  
C. Glasmagasinet with the new extension to the right.



**The street as an extended road notion**

Part D: Analysis and Conclusion (Chapters 8 & 9)

- A.** Oslo Domkirke <sup>D8</sup>, the main church of Oslo, first part built in 1697 with later extensions. A major conversion was designed by architect de Chateauneuf in 1850.
- B.** The former headquarters <sup>D9</sup> of the bank Kreditkassen, now Nordea, designed by F. S. Platou in 1971. The building is now a shopping center.
- C.** Glasmagasinet <sup>D10</sup>, a shopping center constituting the whole building block, designed by architect O. Ekman and built in 1898/99. The east extension facing Torgata designed by F. S. Platou in 1973 has received favorable attention.



**Figure 8.14:**

Map indicating buildings of particular importance as illustrated in Fig 9.13-9.15.

The cathedral (A), forming the east facade of the square, is the most important building adjacent to Stortorvet, both culturally and architecturally, although it is not axially located in relation to Stortorvet and does not represent a physical limitation to “close” the actual square. Homogeneous four story buildings, primarily originating

<sup>D8</sup> “Oslo – en arkitekturguide”, Universitetsforlaget 1984, p 36

<sup>D9</sup> “Oslo – en arkitekturguide”, Universitetsforlaget 1984, p 37

<sup>D10</sup> “Oslo – en arkitekturguide”, Universitetsforlaget 1984, p 36

***The street as an extended road notion***

Part D: Analysis and Conclusion (Chapters 8 & 9)

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from the late 19th century, constitute the two balanced north and south walls of the square, Glasmagasinet (C) comprising a whole north building façade (and building block). The west wall is comprised by Kreditkasse-bygget (B) erected in 1971 and planned according to a misguided regulation plan that presupposed the demolition of the whole building block towards Karl Johans gate giving the building an asymmetrical location within the present square completely out of the urban scale set by its original architectural significance. Thus the building has received somewhat undeserved negative criticism after its completion, although its dominant expression does not contribute to the architectural harmony of the square.

**The street as an extended road notion**  
 Part D: Analysis and Conclusion (Chapters 8 & 9)

**Summary of Data**

SOCIAL ARENA	B SOCIAL FACTORS	C SOCIAL COMFORT	D SOCIAL ACTIVITY Per hour mean (peak)	F PEDEST. INTENSITY Per hour mean (peak)	I* ARCHITECTURAL ATTRACTIVENESS
<b>Saturday</b>					
Youngstorget	- <b>Street narrow</b> - Meeting people - Quiet/ peace	<b>Well-being</b>	<b>111 s</b> (148 s) <b>13 w</b> (19 w)	<b>246 s</b> (450/ 12 am) <b>279 w</b> (600/ 1 pm)	- <b>Street narrow</b>
Stortorvet	- <b>Seating</b> - Meeting people - Café/ resto - Nice buildings	<b>Well-being</b>	<b>103 s</b> (110 s) <b>52 w</b> (70 w)	<b>656 s</b> (1125/ 12 am) <b>475 w</b> (1050/ 12 am)	- <b>Seating</b> - Nice buildings - Café/ resto
<b>Tuesday</b>					
Youngstorget	- <b>Street narrow</b> - <b>Meeting people</b> - Café/ resto - Many people	<b>Well-being</b> - Safety crime	<b>96 s</b> (102 s) <b>16 w</b> (18 w)	<b>277 s</b> (500/ 4 pm) <b>306 w</b> (600/ 4 pm)	- <b>Street narrow</b> - Café/ resto
Stortorvet	- <b>Car-free zone</b> - Street narrow - Quiet/ peace - Seating - Bushes &- trees - Meeting people - Many people	<b>Well-being</b> - Safety crime - Safety traffic	<b>69 s</b> (85 s) <b>50 w</b> (50 w)	<b>406 s</b> (700/ 3 pm) <b>442 w</b> (900/ 4 pm)	- Street narrow - Seating - Bushes &- trees

**Table 8.12:**  
**SUMMARY OF DATA**  
 for Youngstorget and Stortorvet, Saturdays and Tuesdays.  
 Columns **D** and **F** with summer (s) and winter (w) registrations.  
 Order of categories according to score with the highest score indicated in bold.

Converted into points the summer data are as follows:

SOCIAL ARENA	D SOCIAL ACTIVITY Plot mean (peak)	F PEDEST. INTENSITY Per hour mean (peak)	G SOCIAL PERFORMANCE RATIO D/F	I ARCHITECTURAL ATTRACTIVENESS
<b>Saturday</b>				
Youngstorget	3	1	3	2
Stortorvet	3	2	3	2
<b>Tuesday</b>				
Youngstorget	2	1	3	2
Stortorvet	2	2	3	2

**Table 9.13:**  
**SUMMARY OF DATA CONVERTED INTO POINTS**  
 Relationship between Social Activity, Pedestrian Intensity, Social Performance Ratio and **Architectural Attractiveness** for Youngstorget and Stortorvet. Summer registrations only.



## Summary

In Youngstorget all especially the mentioned buildings contribute its architectural characteristic of the square. However, with the exception of the market halls (B), the buildings do not contribute to give the square an architectural delimitation and form necessary to create a true and ideal traditional three-dimensional urban space. Such space requires an explicit relationship between floor space and the height of the facades according to mathematical architectural principles. Nonetheless, the most appreciated social factor “street narrow” registered by the respondents strongly indicates that the physical appearance of the square project an image of intimacy. This familiar visual image, the function tradition, the improved aesthetical quality and the busy atmosphere attract human attention and provide a desire to take a break along the transport route.

The architectural attractiveness of Stortorvet, according respondents, is somewhat more varied than the case of Youngstorget. Although the factor “Street narrow” is registered on Tuesdays indicating the apparent intimacy of the square, the factor “Seating” is the most appreciated. However, this factor along with the appreciated factors “Café/ resto” and “Bush & trees” most probably refer to the adjacent Domkirkeparen (as previously described) as the inadequate seating facilities, the newly planted trees and the one café that has unsuccessfully struggled to survive during the last two decades apparently do not generate any social activity whatsoever. But Stortorvet has indeed a well proportioned architectural scale particularly represented by the north façade (Glasmagasinet, C) and south façade (building block towards Karl Johans gate) in architectural high quality and harmony.

Factual registrations and subjective observations and analysis indicate that architectural attractiveness is a contributing factor to generate social street activity in Youngstorget, and to a more modest degree in Stortorvet. However, the unique architectural attractiveness of Domkirkeparken is undoubtedly a prime contributing factor for its success and the presence of performers of social street activities.

## 8.5 Oslo: Torggata/ Storgata

### 8.5.1 Summary of Data

(derived from Tables 7.18 – 7.32, Section 7.3.2)

For Torggata/ Storgata the following data are registered:

SOCIAL ARENA	A SOCIAL INTENT	B SOCIAL FACTORS	C SOCIAL COMFORT	D SOCIAL ACTIVITY Plot mean (peak)	E SOCIAL DURATION	F PEDEST. INTENSITY Per hour mean (peak)
<b>Saturday</b>						
<b>Torggata</b>	<b>Leisure</b> Shopping Culture Work Passing by	<b>Car-free zone</b> Many people	<b>Well-being</b>	<b>31 s</b> (40 s) <b>23 w</b> (31 w)	<b>0-10 min</b> > 6 hours 1-3 hours 11-30 min 31-60 min	<b>1492 s</b> (2750/ 2 pm) <b>1579 w</b> (3200/ 1 pm)
<b>Storgata</b>	<b>Shopping</b> Leisure	<b>Commercial Public trans.</b> Many people	<b>Well-being</b> Safety crime	<b>104 s</b> (148 s) <b>25 w</b> (50 w)	<b>0-10 min</b> 1-3 hours 11-30 min 4-6 hours	<b>1873 s</b> (3250/ 2 pm) <b>1683 w</b> (3625/ 1 pm)
<b>Tuesday</b>						
<b>Torggata</b>	<b>Shopping</b> Stroll Passing by	No data	<b>Well-being</b> Safety crime	<b>31 s</b> (40 s) <b>23 w</b> (31 w)	<b>0-10 min</b> 1-3 hours	<b>1446 s</b> (2325/ 3 pm) <b>1094 w</b> (1975/ 4 pm)
<b>Storgata</b>	<b>Shopping</b> Work Passing by Leisure	<b>Public trans.</b> Commercial Street narrow Street open Many people Bushes/ trees Quite/ peace Car-free zone Many people	<b>Well-being</b>	<b>104 s</b> (148 s) <b>25 w</b> (50 w)	<b>0-10 min</b> 11-30 min 1-3 hours 31-60 min	<b>1588 s</b> (2575/ 3 pm) <b>1402 w</b> (2600/ 4 pm)

**Table 8.14:**

**SUMMARY OF DATA** for Torggata and Storgata, Saturdays and Tuesdays.

Columns **D** and **F** with summer (s) and winter (w) registrations. Columns **B-D** and **F** with summer registrations with mean values. Order of categories according to score with the highest score indicated in bold.

### 8.5.2 Social Intent (A)

SOCIAL ARENA	A SOCIAL INTENT
<b>Saturday</b>	
Torggata	Leisure Shopping Culture Work Passing by
Storgata	Shopping Leisure
<b>Tuesday</b>	
Torggata	Shopping Stroll Passing by
Storgata	Shopping Work Passing by Leisure

**Table 8.15:**  
 Social intent, Torggata and Storgata.

With regard to social intent there are surprising similarities between Torggata and Storgata. “Shopping” seems to be the main reason for visiting both streets, although “Leisure” is the major intention for the Saturday visits in Torggata. “Leisure” also is an intentional factor for Storgata both Saturdays and Tuesdays. As for Youngstorget and Stortorget, “Passing by” is mentioned as a reason for visit; an exception is Saturday visits in Storgata. Both streets are transport routes, especially Storgata on workdays (Tuesdays) as part of this street represents the main pedestrian route from Oslo S.

### 8.5.3 Social Factors (B)

SOCIAL ARENA	B SOCIAL FACTORS
<b>Saturday</b>	
Torggata	Car-free zone Many people
Storgata	Commercial Public trans. Many people
<b>Tuesday</b>	
Torggata	No data
Storgata	Public trans. Commercial Street narrow Street open Many people Bushes/ trees Quiet/ peace Car-free zone Many people

**Table 8.16:**  
 Social factors, Torggata and Storgata.

Unfortunately there are no data for Torggata on Tuesdays with regard to “Social factors”. Not surprisingly, visitors in Torggata (on Saturdays) appreciate it being a “Car-free zone” and the fact that there are many people gathering, especially on Saturdays. Storgata is foremost appreciated for public transportation service (tram and buses) and as a commercial arena, although its position as the prime shopping street in Oslo has passed by far. On Tuesdays Storgata is also appreciated for a wide range of factors such as for instance being both “open” and “narrow”, apparently contradictable, but descriptive for the three-dimensional street room of Storgata which indistinct and varied.

### 8.5.4 Social Comfort (C)

A3 – A4 SOCIAL ARENA	D SOCIAL COMFORT > 40 %
<b>Saturday</b>	
Torggata	Wel- being
Storgata	Well-being Safety crime
<b>Tuesday</b>	
Torggata	Well-being Safety crime
Storgata	Well-being

There is a unilateral opinion about social comfort in Torggata and Storgata, namely that all respondents feel well both places. Registrations of “Safety crime” are recorded in Storgata on Saturdays and in Torggata on Tuesdays.

**Table 8.17:**  
*Social comfort, Torggata and Storgata.*

### 8.5.5 Social Duration (E)

SOCIAL ARENA	D SOCIAL DURATION > 5 %
<b>Saturday</b>	
Torggata	0-10 min > 6 hours 1-3 hours 11-30 min 31-60 min
Storgata	0-10 min 1-3 hours 11-30 min 4-6 hours
<b>Tuesday</b>	
Torggata	0-10 min 1-3 hours
Storgata	0-10 min 11-30 min 1-3 hours 31-60 min

The general performance for both streets is a performance of 0-10 minutes. Torggata has registered visitors staying up to 3 hours and Stortorget has registered visitors staying 4-6 hours. Storgata has a relatively high social performance (F) for instance with 1-3 hours stay on Saturdays being the second highest registration period. Presumably this is due to the fact that Storgata has many shops, both small shops and shopping centers designed for people to stay.

**Table 8.18:**  
*Social duration, Torggata and Storgata.*

## 8.5.6 Social Performance Ratio (G)

### Social street activity

Data for Social Street Activity is derived by counting on:

- three summer Saturdays
- one winter Saturday
- four summer Tuesdays
- one winter Tuesday

and presented as the mean value of 12 registrations in two periods:

10.00 am- 7.00 pm and , 7.00 pm- 10.00 pm

Generally the social street activity is very low in both Torggata and Storgata, with the highest score in Torggata on Saturdays. Storgata used to be a busy shopping street with undoubtedly a great amount of social activity. These days have passed. Today the street is dominated by public transport and physical measures to improve the accessibility of such transport on the expense of accessibility for pedestrians. No facilities whatsoever are provided to make people to stay longer than necessary in Storgata.

One might assume that pedestrian streets, such as the registered part of Torggata, are adapted for social street activity. This is not necessary the case, although a certain tendency of such activity occurs in Torggata on summer Saturdays. The presented data and general observations by some urban sociologists conclude that pedestrian streets are designed for pedestrian transport flow from one shop to another not inviting people (for some peculiar reason) to hang about longer than the actual shopping procedure requires. Torggata is apparently designed according to such principles. The future will tell if the new rehabilitated street will deviate from this design approach.

## **Pedestrian Intensity**

Data for Pedestrian Intensity is derived by counting on:

- three summer Saturdays
- one winter Saturday
- four summer Tuesdays
- one winter Tuesday

and presented as the mean value of 12 registrations at the following times:

10.00 am, 11.00 am, 12.00 am, 1.00 pm, 2.00 pm, 3.00 pm, 4.00 pm, 5.00 pm, 6.00 pm, 7.00 pm, 8.00 pm and 9.00 pm.

The pedestrian intensity is generally high for both Torgata and Storgata both Saturdays and Tuesdays- summer and winter. Naturally, in streets with shopping as the main reason for a visit, it is no surprise than the Saturdays have the peak results with a higher score during winter. This fact, one might argue, is the best indication of a non-social arena as people seem to be more incline to perform social activity within the streets in summer.



## Summary of Data

The following data derives from Table 8.14:

SOCIAL ARENA	D SOCIAL ACTIVITY Plot mean (peak)	F PEDEST. INTENSITY Per hour mean (peak)	G SOCIAL PERFORMANCE RATIO D/F
<b>Saturday</b>			
<b>Torggata</b>	<b>31 s</b> (40 s) <b>23 w</b> (31 w)	<b>1492 s</b> (2750/ 2 pm) <b>1579 w</b> (3200/ 1 pm)	<b>2,1 % s</b>  <b>1,5 % w</b>
<b>Storgata</b>	<b>104 s</b> (148 s) <b>25 w</b> (50 w)	<b>1873 s</b> (3250/ 2 pm) <b>1683 w</b> (3625/ 1 pm)	<b>5,6 % s</b>  <b>1,5 % w</b>
<b>Tuesday</b>			
<b>Torggata</b>	<b>27 s</b> (31 s) <b>19 w</b> (19 w)	<b>1446 s</b> (2325/ 3 pm) <b>1094 w</b> (1975/ 4 pm)	<b>1,9 % s</b>  <b>1,7 % w</b>
<b>Storgata</b>	<b>84 s</b> (85 s) <b>60 w</b> (60 s)	<b>1588 s</b> (2575/ 3 pm) <b>1402 w</b> (2600/ 4 pm)	<b>5,3 % s</b>  <b>4,3 % w</b>

**Table 8.19:**  
*Social activity versus pedestrian intensity; mean values.*  
**S** indicating and **w** indicating winter.

Converted into points the summer data are as follows:

SOCIAL ARENA	D SOCIAL ACTIVITY Plot mean	F PEDEST. INTENSITY Per hour mean	G SOCIAL PERFORMANCE RATIO D/F
<b>Saturday</b>			
<b>Torggata</b>	<b>2</b>	<b>3</b>	<b>1</b>
<b>Storgata</b>	<b>3</b>	<b>3</b>	<b>2</b>
<b>Tuesday</b>			
<b>Torggata</b>	<b>1</b>	<b>3</b>	<b>1</b>
<b>Storgata</b>	<b>2</b>	<b>3</b>	<b>2</b>

**Table 8.20:**  
*Differentiation of Social Street Activity, Pedestrian Intensity and Social Performance Ratio for Torggata and Storgata. Summer registrations only.*

## Summary

Table 8.20 indicates that both Torggata and Storgata have a high pedestrian intensity both days, Storgata being a transit area for the pedestrian stream to and from Jernbanetorget and Torggata being a pedestrian street designed for shopping and movement - not for staying. However, Storgata has a relatively high social street activity especially on Saturdays when there are many people waiting for public transport (public transport is the most appreciated factor in Storgata). Torggata has a medium social street activity on Saturdays and low on Tuesdays, being explained by the same argument as for pedestrian intensity. The Social Performance Ratio is low for Torggata and medium high for Storgata (although low medium scores), indicating that Torggata has no significance as a social arenas while Storgata has. This might be regarded as a surprising result, but is understandable according to previous assertions about the characteristics of pedestrians streets and streets dominated by public transport.

Factual registrations and subjective observations and analysis indicate that Storgata has a relatively high social street activity and Torggata a medium high activity. However, neither streets might be regarded as typical social arenas as the social performance ratio is low both places.

## 8.5.7 Social Street Activity versus Motorized Traffic Volume

### Motorized Traffic Volume/ *Torggata*



**Figure 8.15:**  
*Registered part of Torggata from Kirkeristen to Pløens gate (between red dots).  
Map is not in scale.*

The registered part of Torggata (from Kirkeristen to Pløens gate) is a pedestrian street with no general car traffic except the transport of goods.

## Motorized Traffic Volume/ *Storgata*



**Figure 8.16:**  
*Storgata from Lybekkergata to Kirkeristen (between red dots). Map is not in scale.*

The registered part of Storgata (from Lybekkergata to Kirkeristen) had a car traffic volume of 8 100 AADT in 1989, later to be reduced to 4 600 AADT in 1998/99. The street is the location for four tram lines (lines 11, 12, 13 & 17) with 5 min interval each resulting in an approximately continuous tram-flow, or more precisely: one tram every 30 sec.

**The street as an extended road notion**  
Part D: Analysis and Conclusion (Chapters 8 & 9)

## Summary of Data

SOCIAL ARENA	B SOCIAL FACTORS	C SOCIAL COMFORT	D SOCIAL ACTIVITY Plot mean (peak)	F PEDEST. INTENSITY Pr hour mean (peak)	H* CAR TRAFFIC VOLUME AADT
<b>Saturday</b>					
Torggata	Car-free zone Many people	Well-being	<b>31 s</b> (40 s) <b>23 w</b> (31 w)	<b>1492 s</b> (2750/ 2 pm) <b>1579 w</b> (3200/ 1 pm)	<b>0</b>
Storgata	Commercial Public trans. Many people	Well-being Safety crime	<b>104 s</b> (148 s) <b>25 w</b> (50 w)	<b>1873 s</b> (3250/ 2 pm) <b>1683 w</b> (3625/ 1 pm)	<b>4 600</b>
<b>Tuesday</b>					
Torggata	No data	Well-being Safety crime	<b>31 s</b> (40 s) <b>23 w</b> (31 w)	<b>1446 s</b> (2325/ 3 pm) <b>1094 w</b> (1975/ 4 pm)	<b>0</b>
Storgata	Public trans. Commercial Street narrow Street open Many people Bushes/ trees Quite/ peace Car-free zone Many people	Well-being	<b>104 s</b> (148 s) <b>25 w</b> (50 w)	<b>1588 s</b> (2575/ 3 pm) <b>1402 w</b> (2600/ 4 pm)	<b>4 600</b>

**Table 8.21:**

### **SUMMARY OF DATA**

for Youngstorget and Stortorget, Saturdays and Tuesdays.

Columns **D** and **F** with summer (s) and winter (w) registrations. Order of categories according to score with the highest score indicated in bold.

\* AADT in column **H** does not differentiate between week-days.

Converted into points the summer data are as follows:

SOCIAL ARENA	D SOCIAL ACTIVITY Plot mean (peak)	F PEDEST. INTENSITY Per hour mean (peak)	G SOCIAL PERFORMANCE RATIO D/F	H MOTORIZED TRAFFIC VOLUME
<b>Saturday</b>				
Torggata	<b>2</b>	<b>3</b>	<b>1</b>	<b>0</b>
Storgata	<b>3</b>	<b>3</b>	<b>2</b>	<b>1</b>
<b>Tuesday</b>				
Torggata	<b>1</b>	<b>3</b>	<b>1</b>	<b>0</b>
Storgata	<b>2</b>	<b>3</b>	<b>2</b>	<b>1</b>

**Table 8.22:**

### **SUMMARY OF DATA CONVERTED INTO POINTS**

Relationship between Social Street Activity, Pedestrian Intensity, Social Performance Ratio and **Motorized Traffic Volume** for Torggata and Storgata. Summer registrations only.



## Summary

Table 8.22 indicates that Storgata has a low motorized traffic volume at 4 600 AADT, just below the medium volume limit. However, a high proportion of this traffic is pedestrian traffic. Such traffic, especially the tram, is much more visible and noticeable than car traffic, presenting a visual and environmental strain both due to its presence and to the physical implementations necessary to give priority to a smooth accessibility.



**Figure 8.17:**  
*Storgata is very influenced by the tram.*

Storgata is a pedestrian street with no traffic. Thus the social factor "Car-free zone" is, not surprisingly, the most appreciated factor here. People enjoy strolling in a car-free environment, but that is just what they are doing - strolling.



***The street as an extended road notion***

Part D: Analysis and Conclusion (Chapters 8 & 9)

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Although having the same summer score, Storgata has a higher pedestrian intensity than Torggata both Saturdays and Tuesdays, summer and winter. For instance, on a summer Saturday Storgata has 18% more pedestrian traffic than Torggata and 50% more social activity. In Storgata the respondents appreciate the public transport service and the commercial offers. Since the level of social street activities are higher in Storgata, one might assume that the car traffic of 4 600 AADT (defined as low) including the presence of trams and buses in Storgata have limited affect on social street activity knowing that Torggata has no car nor public transport whatsoever.

Factual registrations and subjective observations and analysis indicate that motorized traffic volume does not seem to be a contributing factor to restrict social street activity in Storgata, but the absence of car traffic is appreciated in Torggata.

## 8.5.8 Social Street Activity versus Architectural Attractiveness

### Architectural attractiveness / *Torggata*

The registered part of Torggata has restricted contact with its parallel streets Møllergata and Storgata; the former is situated at a higher topographic level and the latter is divided by a wide building block with no crosswise streets (apart from an internal shopping arcade). Consequently, Torggata has an isolated impression without many adjacent commercial facilities to generate social street activity than located within the street itself. However, obscure commerce and indoor catering and the presence of Eldorado, a cinema center with a repertoire appealing to a teenage audience, are the characteristics of Torggata (Fig 8.18). A further characteristic is the apparent absence of chain stores except bargain shops including a bargain hardware store specializing in any technical goods imaginable apparently aimed at men over 40.



**Figure 8.18:**  
*Eldorado cinema center, a popular establishment that generates activity.*

## **Architectural attractiveness / Storgata**

There are few architecturally spectacular buildings in Storgata, although Storgata 10 & 12 designed by architect Ole Sverre (Fig 8.19) still constitutes a notable impression. Some new buildings were infilled during the 1970 (as for instance the Gunerius mega-store), without contributing to the architectural attractiveness of the street. This part of Storgata is reasonable wide and the variation in building heights leaves a disorderly visual impression. In fact, the street is too wide to become intimate and the security fences along both sides of the streets makes crossings virtually impossible, reducing the pedestrian accessibility.



**Figure 8.19:**  
*Storgata at its pride in 1935, with the two new functionalistic symbols influenced by “de Stijl”, designed by architect Ole Sverre and erected in 1934.*

***The street as an extended road notion***

Part D: Analysis and Conclusion (Chapters 8 & 9)

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Visually Storgata leaves a rather sad impression, apparently derelict (although quite a few people stroll by as previously described) and with public transport facilities as a dominating element. Most buildings are in the need of being care and maintenance and so does the street floor. The street has varied commercial offers being characterized by uninviting and scruffy shop fronts except for the few chain shops.



**Figure 8.20:**

*Storgata leaves a sad visual impression. The brick building in the center marks the entrance to the Opera-passage leading directly to Youngstorget, one of the few spectacular elements of Storgata although being the back entrance of "Folketeaterbygningen".*

**The street as an extended road notion**  
Part D: Analysis and Conclusion (Chapters 8 & 9)

**Summary of Data**

SOCIAL ARENA	B SOCIAL FACTORS	C SOCIAL COMFORT	D SOCIAL ACTIVITY Plot mean (peak)	G PEDEST. INTENSITY Per hour mean (peak)	I ARCHITECTURAL ATTRACTIVENESS
<b>Saturdays</b>					
Torggata	- Car-free zone - Many people	Well-being	<b>31 s</b> (40 s) <b>23 w</b> (31 w)	<b>1492 s</b> (2750/ 2 pm) <b>1579 w</b> (3200/ 1 pm)	
Storgata	- Commercial - Public trans. - Many people	Well-being Safety crime	<b>104 s</b> (148 s) <b>25 w</b> (50 w)	<b>1873 s</b> (3250/ 2 pm) <b>1683 w</b> (3625/ 1 pm)	
<b>Tuesdays</b>					
Torggata	No data	Well-being Safety crime	<b>31 s</b> (40 s) <b>23 w</b> (31 w)	<b>1446 s</b> (2325/ 3 pm) <b>1094 w</b> (1975/ 4 pm)	
Storgata	- Public trans. - Commercial - Street narrow - Street open - Many people - Bushes/ trees - Quiet/ peace - Car-free zone - - Many people	Well-being	<b>104 s</b> (148 s) <b>25 w</b> (50 w)	<b>1588 s</b> (2575/ 3 pm) <b>1402 w</b> (2600/ 4 pm)	- Street narrow - Street open - Bushes/ trees

**Table 8.23:**

**SUMMARY OF DATA**

for Youngstorget and Stortorvet, Saturdays and Tuesdays.

Columns **E** and **G** with summer (s) and winter (w) registrations. Order of categories according to score with the highest score indicated in bold. S= summer, W= winter.

Converted into points the summer data are as follows:

SOCIAL ARENA	D SOCIAL ACTIVITY Plot mean (peak)	F PEDEST. INTENSITY Per hour mean (peak)	G SOCIAL PERFORMANCE RATIO D/F	I ARCHITECTURAL ATTRACTIVENESS
<b>Saturday</b>				
Torggata	2	3	1	2
Storgata	3	3	2	1
<b>Tuesday</b>				
Torggata	1	3	1	2
Storgata	2	3	2	1

**Table 8.24:**

**SUMMARY OF DATA CONVERTED INTO POINTS**

Relationship between Social Activity, Pedestrian Intensity, Social Performance Ratio and **Architectural Attractiveness** for Torggatat and Storgata.

Summer registrations only.

## Summary

As opposed to Youngstorget and Stortorvet there are few buildings in Torggata and Storgata with high architectural quality, the two functionalistic office buildings by Ole Sverre (Fig 8.19) being two mentionable exceptions. The only clue presented by the respondents to determine the architectural attractiveness of Torggata and Storgata is the factors “Street narrow”, “Street open” and “Bushes/ trees” registered in Storgata on Tuesdays, the two former factors being contradictory.

As shown in table 8.24 Storgata has low architectural attractiveness due to a disorderly architectural impact, poor maintenance and a visual impression marked by public transport equipment. Strolling up Storgata is not a pleasant experience. Torggata has achieved a medium high score, not necessarily due to its unique architecture but to the intimate three-dimensional scale that appeal to human instincts.

Factual registrations and subjective observations and analysis indicate that architectural attractiveness might be a contributing factor to restrict social street activity in both Storgata and Torggata.



## 8.6 Trondheim: Olav Tryggvasons gate/ Fjordgata

### 8.6.1 Summary of Data

(derived from Tables 7.33 – 7.46, Section 7.3.3)

For Olav Tryggvasons gate/ Fjordgata the following data are registered:

SOCIAL ARENA	A SOCIAL INTENT	B SOCIAL FACTORS	C SOCIAL COMFORT	D SOCIAL ACTIVITY Plot mean (peak)	E SOCIAL DURATION	F PEDEST. INTENSITY Per hour mean (peak)
<b>Saturdays</b>						
<b>Olav Tryggvasons-gate</b>	<b>Shopping</b> Passing by Stroll Café/ resto	<b>Commercial</b> Street open Many people Public transp. Meeting p.	<b>Well-being</b>	<b>24 s</b> (1 pm)	<b>0-10 min</b> 11-30 min 1-3 hours 31-60 min	<b>905 s</b> (1 pm)
<b>Fjordgata</b>	<b>Shopping</b> Stroll	<b>Commercial</b> Street open Meeting people	<b>Well-being</b> Safety crime	<b>20 s</b> (1 pm)	<b>0-10 min</b> 31-60 min 11-30 min 1-3 hours	<b>440 s</b> (12 am)
<b>Ravnkloa</b>				<b>26 s</b> (1 pm)		
<b>Tuesdays</b>						
<b>Olav Tryggvasons-gate</b>	<b>Shopping</b> Passing by Work Stroll	<b>Commercial</b> Public transp. Many people Street open Meeting people	<b>Well-being</b>	<b>28 s</b> (1 pm)	<b>11-30 min</b> 0-10 min 31-60 min 1-3 hours	<b>621 s</b> (12 am)
<b>Fjordgata</b>	<b>Shopping</b> Leisure Work Stroll Passing by	<b>Commercial</b> Street open	<b>Well-being</b> Safety traffic	<b>21</b> (1 pm)	<b>0-10 min</b> <b>11-30 min</b> 31-60 min 1-3 hours	<b>329 s</b> (12 am)
<b>Ravnkloa</b>				<b>26 s</b> (1 pm)		

**Table 8.25:**

**SUMMARY OF DATA** for Olav Tryggvasons gate and Fjordgata, Saturdays and Tuesdays.

Columns **D** and **F** with summer (s) and winter (w) registrations. Columns **B-D** and **F** with summer registrations with mean values. Order of categories according to score with the highest score indicated in bold.

## 8.6.2 Social Intent (A)

SOCIAL ARENA	A SOCIAL INTENT
<b>Saturdays</b>	
<b>Olav Tryggvasons gate</b>	<b>Shopping</b> Passing by Stroll Café/ resto
<b>Fjordgata</b>	<b>Shopping</b> Stroll
<b>Tuesdays</b>	
<b>Olav Tryggvasons gate</b>	<b>Shopping</b> Passing by Work Stroll
<b>Fjordgata</b>	<b>Shopping</b> Leisure Work Stroll Passing by

With regard to social intent there is one common most appreciated factor for both Olav Tryggvasons gate and Fjordgata, namely shopping. Both streets are foremost shopping arenas although with different types of shops, Olav Tryggvasons gate being dominated by chain shops and Fjordgata being dominated by specialized shops. Apparently pedestrians use the street differently when walking in the two streets: while most are “passing by” in Olav Tryggvasons gate, people are strolling in Fjordgata to perform a leisure activity.

**Table 8.24:**  
*Social intent, Olav Tryggvasons gate and Fjordgata*

## 8.6.3 Social Factors (B)

SOCIAL ARENA	B SOCIAL FACTORS
<b>Saturdays</b>	
<b>Olav Tryggvasons gate</b>	<b>Commercial</b> Street open Many people Public transp. Meeting p.
<b>Fjordgata</b>	<b>Commercial</b> Street open Meeting people
<b>Tuesdays</b>	
<b>Olav Tryggvasons gate</b>	<b>Commercial</b> Public transp. Many people Street open Meeting people
<b>Fjordgata</b>	<b>Commercial</b> Street open

As the main intention of visiting both Olav Tryggvasons gate and Fjordgata is shopping, commercial offers are naturally the most appreciated factor. In Olav Tryggvasons gate the public transport services is important. Both streets are appreciated because of their open and inviting visual appearance and the possibility of meeting people is a strong contributing factor for staying.

**Table 8.27:**  
*Social factors, Olav Tryggvasons gate and Fjordgata*

### 8.6.4 Social Comfort (C)

SOCIAL ARENA	C SOCIAL COMFORT
<b>Saturdays</b>	
Olav Tryggvasonsgate	Well-being
A6 b Fjordgata	Well-being Safety crime
<b>Tuesdays</b>	
Olav Tryggvasonsgate	Well-being
Fjordgata	Well-being Safety traffic

All respondents feel well in both Olav Tryggvasonsgate and Fjordgata. In Fjordgata “Safety crime” is mentioned particularly on Saturdays and “Safety traffic” is registered on Tuesdays.

**Table 8.28:**  
 Social comfort, Olav Tryggvasonsgate and Fjordgata

### 8.6.5 Social Duration (E)

SOCIAL ARENA	D SOCIAL DURATION
<b>Saturdays</b>	
Olav Tryggvasonsgate	<b>0-10 min</b> 11-30 min 1-3 hours 31-60 min
Fjordgata	<b>0-10 min</b> 31-60 min 11-30 min 1-3 hours
<b>Tuesdays</b>	
Olav Tryggvasonsgate	<b>11-30 min</b> 0-10 min 31-60 min 1-3 hours
Fjordgata	<b>0-10 min</b> <b>11-30 min</b> 31-60 min 1-3 hours

The common performance of the social street activity for both streets is 0-10 minute. However, Olav Tryggvasonsgate has 11-30 minutes as the most common social performance on Tuesdays.

**Table 8.29:**  
 Social duration, Olav Tryggvasonsgate and Fjordgata

## 8.6.6 Social Performance Ratio (G)

### Social street activity

Data for Social Street Activity is derived by counting on Saturdays and “weekdays”<sup>D11</sup> and presented as mean value of 6 registrations at the following times:

10.00 am, 11.00 am, 12.00 am, 1.00 pm, 2.00 pm, 3.00 pm, 4.00 pm, 5.00 pm, 6.00 pm and 7.00 pm.

Social street activity is foremost a Saturday occurrence for both streets. Fjordgata is more sensitive to seasonal changes than Olav Tryggvasons gate as the latter has approximately the same amount of activity both summer and winter and Fjordgata doubles its activity in summer compared to winter. What is more noticeable, however, is that Fjordgata attracts more social activity than Olav Tryggvasons gate not taking Ravnkloa into consideration: as Olav Tryggvasons gate has 77% more pedestrian intensity than Fjordgata, both streets actually have the approximately same amount of social street activity. The Social Street Activity in Ravnloa is, not surprisingly, a typical summer phenomenon having hardly any visitors during winter.

### Pedestrian Intensity

Data for Pedestrian Intensity is derived by counting on Saturdays and “weekdays”<sup>D12</sup> and presented as mean value of 6 registrations at the following times:

10.00 am, 11.00 am, 12.00 am, 1.00 pm, 2.00 pm, 3.00 pm, 4.00 pm, 5.00 pm, 6.00 pm and 7.00 pm.

The pedestrian intensity in Olav Tryggvasons gate and Fjordgata is relatively modest. Although winter registrations are not specified, there is generally an equal number of pedestrians during winter, probably more, due to the fact that there are hardly any cycling during the winter season although this seems to change. In summer Olav Trggvasons gate has, as previously described, 77% more pedestrian intensity than

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<sup>D11</sup> Undefined day beside Saturday and Sunday.

<sup>D12</sup> Undefined day beside Saturday and Sunday.

**The street as an extended road notion**  
 Part D: Analysis and Conclusion (Chapters 8 & 9)

Fjordgata both on Saturdays and Tuesdays. Both have, not suprisingly, more pedestrian intensity on Saturday than Tuesday, 64% for Olav Tryggvasons gate and 44% for Fjordgata. Both pavements are equally used in Olav Tryggvasons gate as the north pavements (towards the channel) is mostly used in Fjordgata.

## Summary of Data

The following data derive s from chapter 8.6.1:

SOCIAL ARENA	D SOCIAL ACTIVITY Plot mean (peak)	F PEDEST. INTENSITY Per hour mean (peak)	G SOCIAL PERFORMANCE RATIO D/F
<b>Saturday</b>			
Olav Tryggvasons gt	24 s (1 pm)	905 s (1 pm)	2,7 % s
Fjordgata	20 s (1 pm)	440 s (12 am)	4,5 % s
Ravnkloa	26 s (1 pm)		
<b>Workday</b>			
Olav Tryggvasons gt	28 s (1 pm)	621 s (12 am)	4,5 % s
Fjordgata	21 (1 pm)	329 s (12 am)	6,4 % s
Ravnkloa	26 s (1 pm)		

**Table 8.30:**  
 Social activity versus pedestrian intensity; mean values.

Converted into points the summer data are as follows:

SOCIAL ARENA	D SOCIAL ACTIVITY Plot mean* (peak)	F PEDEST. INTENSITY Per hour mean (peak)	G SOCIAL PERFORMANCE RATIO D/F
<b>Saturday</b>			
Olav Tryggvasons gt	1	2	1
Fjordgata	1	2	1
<b>Workday</b>			
Olav Tryggvasons gt	1	2	1
Fjordgata	1	2	2

**Table 8.31:**  
 Differentiation of Social Street Activity, Pedestrian Intensity and Social Performance Ratio for Olav Tryggvasons gate and Fjordgata. Summer registrations only.

## Summary

Table 8.31 indicates that both Olav Tryggvasons gate and Fjordgata both have a medium pedestrian intensity both days, but low social street activity. The social performance ratio is approximately similar for Olav Tryggvasons gate and Fjordgata, although the score of Fjordgata is just above the medium score level on Tuesdays (6.4%). The total social street activity is relatively modest in both streets compared to the registered pedestrian activity.

Factual registrations and subjective observations and analysis indicate that Storgata has a relatively high social street activity and Torggata a medium high activity. However, neither streets might be regarded as typical social arenas as the social performance ratio is low both places.



## 8.6.7 Social Street Activity versus Motorized Traffic Volume

### Motorized Traffic Volume/ *Olav Tryggvasons gate*



**Figure 8.21:**  
*Olav Tryggvasons gate located between Prinsens gate and Kjøpmannsgata.*

Olav Tryggvassons gate, being a National Road (Rv 715 and partly E6), has a relatively high level of car traffic being a dominant element and causing noticeable environmental strain. The average traffic volume during the UL program registrations was 12 000 AADT. Recent estimates (2005 <sup>D13</sup>) are according to traffic models 11 500, 14 500 and 16 000 AADT as illustrated in Fig 8.21 above. The location of the street is central being the main access route to and through the city center from east for cars, bikes and pedestrians. Consequently, the traffic is mixed, dominated by car traffic with a share of heavy traffic (lorries) of approx 7%. Olav Tryggvassons gate is a major route for public transport serving several bus routes.

<sup>D13</sup> Source: Norwegian Public Roads Administration

## Motorized Traffic Volume/ *Fjordgata*



**Figure 8.22:**  
*Fjordgata located between Søndre gate and Prinsens gate.*

Fjordgata has both through traffic and local traffic, the latter mostly representing drivers in search for a vacant parking spot. Motorized traffic also makes its mark on Fjordgata, although there is little transit heavy traffic besides necessary transport of goods to the various shops. The car traffic intensity is registered at 13 000 AADT <sup>D14</sup>.

Generally the accessibility in the street is, according to the Trondheim report, characterized by central location, medium car accessibility, good public transport accessibility, medium good accessibility for pedestrians and medium good accessibility, but poor passability for cyclists.

<sup>D14</sup> 1995 figures

**The street as an extended road notion**  
Part D: Analysis and Conclusion (Chapters 8 & 9)

## Summary of Data

SOCIAL ARENA	B SOCIAL FACTORS	C SOCIAL COMFORT	D SOCIAL ACTIVITY Plot mean (peak)	F PEDEST. INTENSITY Per hour mean (peak)	H* CAR TRAFFIC VOLUME AADT
<b>Saturday</b>					
<b>Olav Tryggvasons gate</b>	<b>Commercial</b> Street open Many people Public transp. Meeting p.	<b>Well-being</b>	<b>24 s</b> (1 pm)	<b>905 s</b> (1 pm)	<b>14 500</b>
<b>Fjordgata</b>	<b>Commercial</b> Street open Meeting people	<b>Well-being</b> Safety crime	<b>20 s</b> (1 pm)	<b>440 s</b> (12 am)	<b>13 000</b>
<b>Ravnkloa</b>			<b>26 s</b> (1 pm)		
<b>Tuesday</b>					
<b>Olav Tryggvasons gate</b>	<b>Commercial</b> Public transp. Many people Street open Meeting people	<b>Well-being</b>	<b>28 s</b> (1 pm)	<b>621 s</b> (12 am)	<b>14 500</b>
<b>Fjordgata</b>	<b>Commercial</b> Street open	<b>Well-being</b> Safety traffic	<b>21</b> (1 pm)	<b>329 s</b> (12 am)	<b>13 000</b>
<b>Ravnkloa</b>			<b>26 s</b> (1 pm)		

**Table 8.32:**

### **SUMMARY OF DATA**

for Youngstorget and Stortorvet, Saturdays and Tuesdays.

Order of categories according to score with the highest score indicated in bold.

S= summer, W= winter.

\* AADT in column **H** does not differentiate between week-days.

Converted into points the summer data are as follows:

SOCIAL ARENA	D SOCIAL ACTIVITY Plot mean (peak)	F PEDEST. INTENSITY Per hour mean (peak)	G SOCIAL PERFORMANCE RATIO D/F	H MOTORIZED TRAFFIC VOLUME
<b>Saturday</b>				
<b>Olav Tryggvasons gt</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>3</b>
<b>Fjordgata</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>3</b>
<b>Tuesday</b>				
<b>Olav Tryggvasons gt</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>3</b>
<b>Fjordgata</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>3</b>

**Table 8.33:**

### **SUMMARY OF DATA CONVERTED INTO POINTS**

Relationship between Social Activity, Pedestrian Intensity, Social Performance Ratio and **Motorized Traffic Volume** for Olav Tryggvasons gate and Fjordgata Stortorvet. Summer registrations only.

## **Summary**

Table 8.33 indicates that both Olav Tryggvasons gate and Fjordgata have a high motorized traffic volume, 14 500 AADT and 13 000 AADT respectively. Olav Tryggvasons gate has a relatively high proportion of public transport (buses) that is absent from Fjordgata. Furthermore, Olav Tryggvasons gate is also suffering from through traffic with some heavy traffic. Thus, the traffic situation is somewhat different between the two streets.

Both streets have a medium high pedestrian intensity, but few of the visitors seem to stay behind for a brake. Consequently, both the parameters “social street activity” and “social performance ratio” are low, probably partly due to the high level of motorized traffic.

Factual registrations and subjective observations and appraisals indicate that car traffic volume might be a contributing factor to restrict social street activity in both Olav Tryggvasons gate and Fjordgata.



## 8.6.8 Social Street Activity versus Architectural Attractiveness

### **Architectural attractiveness/ *Olav Tryggvassons gate***

Although the traffic in Olav Tryggvassons gate is disturbingly high, such strains are, to a certain and not defined extent, compensated by a high quality standard for building exteriors, pavements and maintenance.



**Figure 8.23:**  
*Olav Tryggvassons gate facing east, taken from the same point as Fig 8.24.*  
*The pictures illustrate the varied architectural visual impact of Olav Tryggvassons gate.*

***The street as an extended road notion***  
Part D: Analysis and Conclusion (Chapters 8 & 9)

---



**Figure 8.24:**  
*Olav Tryggvassons gate facing west, taken from the same standpoint as Fig 8.23.  
The pictures illustrate the varied architectural visual impact of Olav Tryggvassons gate.*

The architectural visual impact of Olav Tryggvassons gate is mixed, varying from traditional <sup>D15</sup> two story timber buildings to four story concrete blocks. Few buildings make a conspicuous visual impact in the street. However, one particular building has become an icon of Olav Tryggvassons gate, appearing on most local postcards, namely Olav Tryggvassons gate 14, the so-called “Matheson-gården”. The building, located on the corner of Søndre gate, was designed by architect Karl Norum and built 1896-98 by Jacob Matheson. It has a distinct architectural expression with parallel to the more famous Britannia Hotel located some building blocks away.

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<sup>D15</sup> for Trondheim





**Figure 8.25:**  
*Olav Tryggvasons gate 14 contributes to the urban architectural expression of the street.*

Midtbyen in Trondheim, the actual city centre, has a street network according to the city plan by Cicignon from 1681. This city plan comprised relatively wide streets with originally two story timber buildings, giving the city a non-urban impression, although having a clear urban structure. Even though later infill projects have been built in brick/ concrete with a building height up to 5-6 stories, the existing presence of many two story timber buildings contributes to a somewhat incoherent architectural impact <sup>D16</sup> and the non-urban impression is still prevailing.

Although Olav Tryggvasons gate is one of the most urban streets in Midtbyen, it still suffers from this apparent architectural disproportion between the intention of the two-dimensional urban structure by Cicignon and the established three-dimensional built environment. In short, Olav Tryggvasons gate, as many streets in Midtbyen,

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<sup>D16</sup> Evident in both Figs 9.27, 9.28 and 9.29.

***The street as an extended road notion***

Part D: Analysis and Conclusion (Chapters 8 & 9)

---

does not leave an intimate visual feeling which is the case for the many alleys<sup>D17</sup> that connect most streets.

However, as previously mentioned, the maintenance of Olav Tryggvasons gate, including buildings, is generally good as the chain stores cannot afford to present a scruffy image. The street is foremost a pedestrian transport route that encourages people to shop - not stop, as there are few, if any, facilities for seating and outdoor activities at street level. This is a shame as the north façade of the street offers good sun conditions and might be an ideal resting arena for the non-shoppers.

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<sup>D17</sup> *In Trondheim termed as "veite".*

## **Architectural attractiveness/ *Fjordgata***

Fjordgata suffers from the same architectural disproportion as is the case for Olav Tryggvasons gate, although probably more evident. As previously described, Fjordgate does not have the financial benefits of the chain stores to promote good maintenance and slick facades as is the case of Olav Tryggvasons gate. Consequently, Fjordgata leaves a rather chaotic and untidy impression which is in fact one of its most charming features.



**Figures 8.26 & 8.27:**  
*Fjordgata: picture Fig 8.26 (above) facing east Fig 8.27 (below) facing west, taken from the same point.*



***The street as an extended road notion***

Part D: Analysis and Conclusion (Chapters 8 & 9)

---

However, Fjordgata has tremendous potential. Its architectural character is distinctive as the Trondheim report summarizes. The characteristics of Fjordgata, it stresses, is emphasized by its unique building character represented by homogeneous wharf buildings along the north side of the street. The wharf buildings, the fish market at Ravnkloa (situated in the west end of the street) and the closeness to the channel represent the positive features of Fjordgata. The sun conditions are good on the north side and there are feasible and wasted unexploited spaces for outdoor activities.



**Figure 8.28:**

*Nidelva, the partly rehabilitated backyard of Fjordgata converted into a marina. But where is the social activity?*

Being located parallel to the channel Nidelva, with traditional storehouses dividing the street and the channel, Fjordgata has tremendous potential both architecturally and socially. Unfortunately the Municipal Council in Trondheim does not seem to grab the

***The street as an extended road notion***

Part D: Analysis and Conclusion (Chapters 8 & 9)

---

great opportunity to transform Fjordgata from a back alley to a major tourist attraction. The accessibility from the street to the channel is poor and the few accesses available are derelict and do not invite any people to enter the waterfront by the channel (Fig 8.28).



**Figure 8.29:**

*The main approach from Fjordgata to the Nidelva channel, not the inviting gateway to the waterfront one might be expect; the space visually appears like a huge “keep off” sign.*

The most attractive architectural feature, and the only conscious designed urban space for social gatherings associated with Fjordgata, is Ravnkloa (Figs 8.30 & 8.31). This was once an arena for trading in fish. It has still this function, but after a rehabilitation in 2000 it has become a favorite place for outdoor recreation for the residents in Trondheim, being conveniently located at the end of Munkegata, the main street of the city.



***The street as an extended road notion***  
Part D: Analysis and Conclusion (Chapters 8 & 9)

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**Figures 8.30 & 8.31:**  
*Ravnkloa, a true social arena.*



**The street as an extended road notion**  
Part D: Analysis and Conclusion (Chapters 8 & 9)

## Summary of Data

SOCIAL ARENA	B SOCIAL FACTORS	C SOCIAL COMFORT	D SOCIAL ACTIVITY Plot mean (peak)	F PEDEST. INTENSITY Per hour mean (peak)	I ARCHITECTURAL ATTRACTIVENESS
<b>Saturday</b>					
<b>Olav Tryggvasons gate</b>	<b>Commercial</b> Street open Many people Public transp. Meeting p.	<b>Well-being</b>	<b>24 s</b> (1 pm)	<b>905 s</b> (1 pm)	Street open
<b>Fjordgata</b>	<b>Commercial</b> Street open Meeting people	<b>Well-being</b> Safety crime	<b>20 s</b> (1 pm)	<b>440 s</b> (12 am)	Street open
<b>Ravnkloa</b>			<b>26 s</b> (1 pm)		
<b>Tuesday</b>					
<b>Olav Tryggvasons gate</b>	<b>Commercial</b> Public transp. Many people Street open Meeting people	<b>Well-being</b>	<b>28 s</b> (1 pm)	<b>621 s</b> (12 am)	Street open
<b>Fjordgata</b>	<b>Commercial</b> Street open	<b>Well-being</b> Safety traffic	<b>21</b> (1 pm)	<b>329 s</b> (12 am)	Street open
<b>Ravnkloa</b>			<b>26 s</b> (1 pm)		

**Table 8.34:**

### **SUMMARY OF DATA**

for Olav Tryggvasons gate and Fjordgata, Saturdays and Tuesdays.  
of categories according to score with the highest score indicated in bold.  
S= summer.

SOCIAL ARENA	D SOCIAL ACTIVITY Plot mean (peak)	F PEDEST. INTENSITY Per hour mean (peak)	G SOCIAL PERFORMANCE RATIO D/F	I ARCHITECTURAL ATTRACTIVENESS
<b>Saturday</b>				
<b>Olav Tryggvasons gt</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>2</b>
<b>Fjordgata</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>2</b>
<b>Tuesday</b>				
<b>Olav Tryggvasons gt</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>2</b>
<b>Fjordgata</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>2</b>

**Table 8.35:**

### **SUMMARY OF DATA CONVERTED INTO POINTS**

Relationship between Social Activity, Pedestrian Intensity, Social Performance Ratio and **Architectural Attractiveness** for Olav Tryggvasons gate and Fjordgata Stortorvet.  
Summer registrations only.

## Summary

Table 8.35 indicates that both Olav Tryggvasons gate and Fjordgata have a medium architectural attractiveness, Olav Tryggvasons gate being relatively narrow and one of the few streets in Trondheim with noticeable urban qualities. Fjordgata, however leaves a more untidy visual impression, but the presence of Ravnkloa improve the general functional and visual impact of the street. However, the “visual pleasure” of strolling down Olav Tryggvasons gate does not seem to encourage visitors to make a brake, probably because there are very few, if any facilities to do physically settle down. Additionally, the busy Ravnkloa does not tempt enough visitors to improve the general social street activity level in Fjordgata.

Factual registrations and subjective observations and appraisals indicate that architectural attractiveness seem to be an insignificant contributing factor to generate social street activity in both Olav Tryggvasons gate and Fjordgata. However, Ravnkloa in Fjordgata with its architectural attraction is a major contributing factor for social street activity at this location.

## 8.7 Bergen: Vågsbunnen/ Strandgaten

### 8.7.1 Summary of Data

(derived from Tables 7.47 – 7.70, Section 7.3.4)

For Vågsbunnen/ Strandgaten the following data are registered:

SOCIAL ARENA	A SOCIAL INTENT	B SOCIAL FACTORS	C SOCIAL COMFORT	D SOCIAL ACTIVITY Plot mean (peak)	E SOCIAL DURATION	F PEDEST. INTENSITY Per hour mean (peak)
<b>Saturday</b>						
Vågsbunnen summer	Passing by	Narrow/intimate Seating Café/outdoor	Well-being Safety crime	<b>175</b> (10am-4pm)	<b>0-10 min</b>	<b>413</b> (850/ 1 pm)
Vågsbunnen Winter	Shopping Café/ resto Passing by	Seating Cultural offers	Well-being Safety crime	No data	<b>0-10 min</b> 1-3 hours 31-60 min	<b>204</b> (650/ 1 pm)
Strandgaten Summer	Shopping Passing by Leisure	Narrow/intimate Bushes/trees Seating Café/outdoor	Well-being Safety crime	<b>20</b> (10am-4pm)	<b>0-10 min</b> 31-60 min 11-30 min	<b>1013</b> (3300/ 1pm)
Strandgaten Winter	Shopping Passing by	Seating Cultural offers	Well-being	No data	<b>11-30 min</b> 1-3 hours 0-10 min	<b>783</b> (3050/ 1 pm)
<b>Tuesday</b>						
Vågsbunnen summer	Passing by Café/ resto Stroll Shopping	Seating Commercial Narrow/intimate Café/outdoor	Well-being Safety crime	<b>170</b> (10am-4pm/ 7pm-1am)	<b>0-10 min</b> 11-30 min 1-3 hours 31-60 min	<b>308</b> (550 1pm)
Vågsbunnen Winter	Leisure Passing by	Cultural offers Seating Bushes/trees Narrow/intimate Many people Café/outdoor Quiet/peace	Well-being Safety crime	No data	<b>0-10 min</b> 1-3 hours 11-30 min	<b>258</b> (450 4pm)
Strandgaten Summer	Shopping Passing by Stroll	Narrow/intimate Commercial Café/outdoor Seating	Well-being Safety crime	<b>14</b> (10am-4pm)	<b>11-30 min</b> 0-10 min 31-60 min	<b>725</b> (1850 1pm)
Strandgaten Winter	Passing by Work Shopping	Café/outdoor Bushes/trees Nice buildings Seating Cultural offers	Well-being Safety crime	No data	<b>0-10 min</b>	<b>683</b> 1450 (1pm/4pm)

**Table 8.36::**

#### **SUMMARY OF DATA**

for Vågsbunnen and Strandgaten, Saturdays and Tuesdays. Mean values for summer season registered 10 am and 4 pm during two Saturdays. Order of categories according to score with the highest score in bold. \*The parameter "social factor" is derived from weekend-registrations (Saturdays and Sundays) and weekday-registration (Tuesdays and Thursdays). \*\* Winter registration obtained at one Saturday at 13.15.

## 8.7.2 Social Intent (A)

SOCIAL ARENA	A SOCIAL INTENT
<b>Saturday</b>	
<b>Vågsbunnen</b> summer	<b>Passing by</b>
<b>Vågsbunnen</b> winter	<b>Shopping</b> Café/ resto Passing by
<b>Strandgaten</b> Summer	<b>Shopping</b> Passing by Leisure
<b>Strandgaten</b> winter	<b>Shopping</b> Passing by
<b>Tuesday</b>	
<b>Vågsbunnen</b> summer	<b>Passing by</b> Café/ resto Stroll Shopping
<b>Vågsbunnen</b> winter	<b>Leisure</b> Passing by
<b>Strandgaten</b> Summer	<b>Shopping</b> Passing by Stroll
<b>Strandgaten</b> winter	<b>Passing by</b> Work Shopping

The two typical reasons why the respondents are visiting Vågsbunnen and Strandgaten are “Shopping” and “Passing by”, although the social activity in Vågsbunnen seem to have a more leisurely element, especially in winter time. Strandgaten is a typical commercial arena but also has a function as a transport route primarily to and from Torgallmenningen. For some reason people seem to have the intention of being more leisurely on Tuesday in Vågsbunnen.

**Table 8.37:**  
*Social intent, Vågsbunnen and Strandgata*

### 8.7.3 Social Factors (B)

A7 – A8 SOCIAL ARENA	C SOCIAL FACTORS
<b>Saturday</b>	
<b>Vågsbunnen</b> summer	<b>Narrow/intimate</b> Seating Café/outdoor
<b>Vågsbunnen</b> winter	<b>Seating</b> Cultural offers
<b>Strandgaten</b> Summer	<b>Narrow/intimate</b> Bushes/trees Seating Café/outdoor
<b>Strandgaten</b> winter	<b>Seating</b> Cultural offers
<b>Tuesday</b>	
<b>Vågsbunnen</b> summer	<b>Seating</b> Commercial Narrow/intimate Café/outdoor
<b>Vågsbunnen</b> winter	<b>Cultural offers</b> <b>Seating</b> <b>Bushes/trees</b> Narrow/intimate Many people Café/outdoor Quiet/peace
<b>Strandgaten</b> Summer	<b>Narrow/intimate</b> Commercial Café/outdoor Seating
<b>Strandgaten</b> winter	<b>Café/outdoor</b> Bushes/trees Nice buildings Seating Cultural offers

There is a wide variety in social factors registered in both Vågsbunnen and Strandgaten, typical of attractive urban spaces. Vågsbunnen is appreciated by being narrow and intimate adequate seating facilities. Cultural offers are also appreciated, especially in winter time when people seem to call on such offers. Strandgaten is also appreciated for being narrow and intimate especially in summer while in winter “Seating” and “Café/outdoor” is most appreciated.

**Table 8.38:**  
*Social factors, Vågsbunnen  
 and Strandgata*

### 8.7.4 Social Comfort (C)

SOCIAL ARENA	C SOCIAL COMFORT
<b>Saturday</b>	
Vågsbunnen summer	Well-being Safety crime
Vågsbunnen winter	Well-being Safety crime
Strandgaten Summer	Well-being Safety crime
Strandgaten winter	Well-being
<b>Tuesday</b>	
Vågsbunnen summer	Well-being Safety crime
Vågsbunnen winter	Well-being Safety crime
Strandgaten Summer	Well-being Safety crime
Strandgaten winter	Well-being Safety crime

There is, as in most streets, a unilateral opinion about social comfort in Vågsbunnen and Strandgaten, namely that all respondents feel well both places. Registrations of “Safety crime” are recorded both streets Stuardays and Tuesdays except winter Saturdays in Strandgaten. No one mentions “Safety traffic”.

**Table 8.39:**  
*Social comfort, Vågsbunnen and Strandgata*

### 8.7.5 Social Duration (E)

SOCIAL ARENA	E SOCIAL DURATION
<b>Saturday</b>	
A7 a Vågsbunnen summer	0-10 min
A7 b Vågsbunnen winter	0-10 min 1-3 hours 31-60 min
A8 a Strandgaten Summer	0-10 min 31-60 min 11-30 min
A8 b Strandgaten winter	11-30 min 1-3 hours 0-10 min
<b>Tuesday</b>	
A7 a Vågsbunnen summer	0-10 min 11-30 min 1-3 hours 31-60 min
A7 b Vågsbunnen winter	0-10 min 1-3 hours 11-30 min
A8 a Strandgaten Summer	11-30 min 0-10 min 31-60 min
A8 b Strandgaten winter	0-10 min

0-10 minutes duration of stay is the most common for both Vågsbunnen and Strandgaten although the duration span of 11-30 min is registered most in Strandgaten on summer Tuesdays. People tend to stay longest in Vågsbunnen on winter Saturdays and summer Tuesdays and on summer Tuesdays in Strandgaten.

**Table 8.40:**  
*Social duration, Vågsbunnen and Strandgata*



## **8.7.6 Social Performance Ratio (G)**

### **Social street activity**

The plotting for Social Street Activity is presented as the mean value registered at the following periods: 10.00 am, 1.00 pm, 4.00 pm, 7.00 pm, 10.00 pm and 1.00 am. The values have been summarized and divided by the six registrations. This is not a hourly registration but a situational plot. Peak period (10am-4pm or 7pm-1am) is indicated in brackets.

### **Pedestrian Intensity**

Data for Pedestrian Intensity is presented as the mean value registered at the following times: 10.00 am-10.15 am, 1.00 pm-1.15 pm, 4.00 pm-4.15 pm, 7.00 pm-7.15 pm, 10.00 pm-10.15 pm, 1.00 am-1.15 am. The values have been multiplied by four to attain an hourly registration. Peak registration is indicated in brackets.

**The street as an extended road notion**  
Part D: Analysis and Conclusion (Chapters 8 & 9)

## Summary of Data

The following data derive s from chapter 8.7.1:

SOCIAL ARENA	D SOCIAL STREET ACTIVITY Plot mean (peak)	F PEDEST. INTENSITY Per hour mean (peak)	G SOCIAL PERFORMANCE RATIO D/F
<b>Saturday</b>			
<b>Vågsbunnen</b> summer	<b>175</b> (10am-4pm)	<b>413</b> (850/ 1 pm)	<b>42,4 % s</b>
<b>Vågsbunnen</b> winter	No data	<b>204</b> (650/ 1 pm)	
<b>Strandgaten</b> Summer	<b>20</b> (10am-4pm)	<b>1013</b> (3300/ 1pm)	<b>2,0 % s</b>
<b>Strandgaten</b> winter	No data	<b>783</b> (3050/ 1 pm)	
<b>Tuesday</b>			
<b>Vågsbunnen</b> summer	<b>170</b> (10am-4pm/ 7pm-1am)	<b>308</b> (550/ 1pm)	<b>55,2 % s</b>
<b>Vågsbunnen</b> winter	No data	<b>258</b> (450/ 4pm)	
<b>Strandgaten</b> Summer	<b>14</b> (10am-4pm)	<b>725</b> (1850 1pm)	<b>1,9 % s</b>
<b>Strandgaten</b> winter	No data	<b>683</b> (1450/ 1pm/4pm)	

**Table 8.41:**  
Social activity versus pedestrian intensity; **S** indicating and **w** indicating winter.

Converted into points the summer data are as follows:

SOCIAL ARENA	D SOCIAL STREET ACTIVITY Plot mean (peak)	F PEDEST. INTENSITY Per hour mean (peak)	G SOCIAL PERFORMANCE RATIO D/F
<b>Saturday</b>			
<b>Vågsbunnen</b>	<b>3</b>	<b>2</b>	<b>3</b>
<b>Strandgaten</b>	<b>1</b>	<b>3</b>	<b>1</b>
<b>Tuesday</b>			
<b>Vågsbunnen</b>	<b>3</b>	<b>2</b>	<b>3</b>
<b>Strandgaten</b>	<b>1</b>	<b>2</b>	<b>1</b>

**Table 8.42:**  
Social Performance Ratio for Vågsbunnen and Strandgaten as the ratio between Social Street Activity and Pedestrian Intensity.  
Summer registrations only.

## Summary

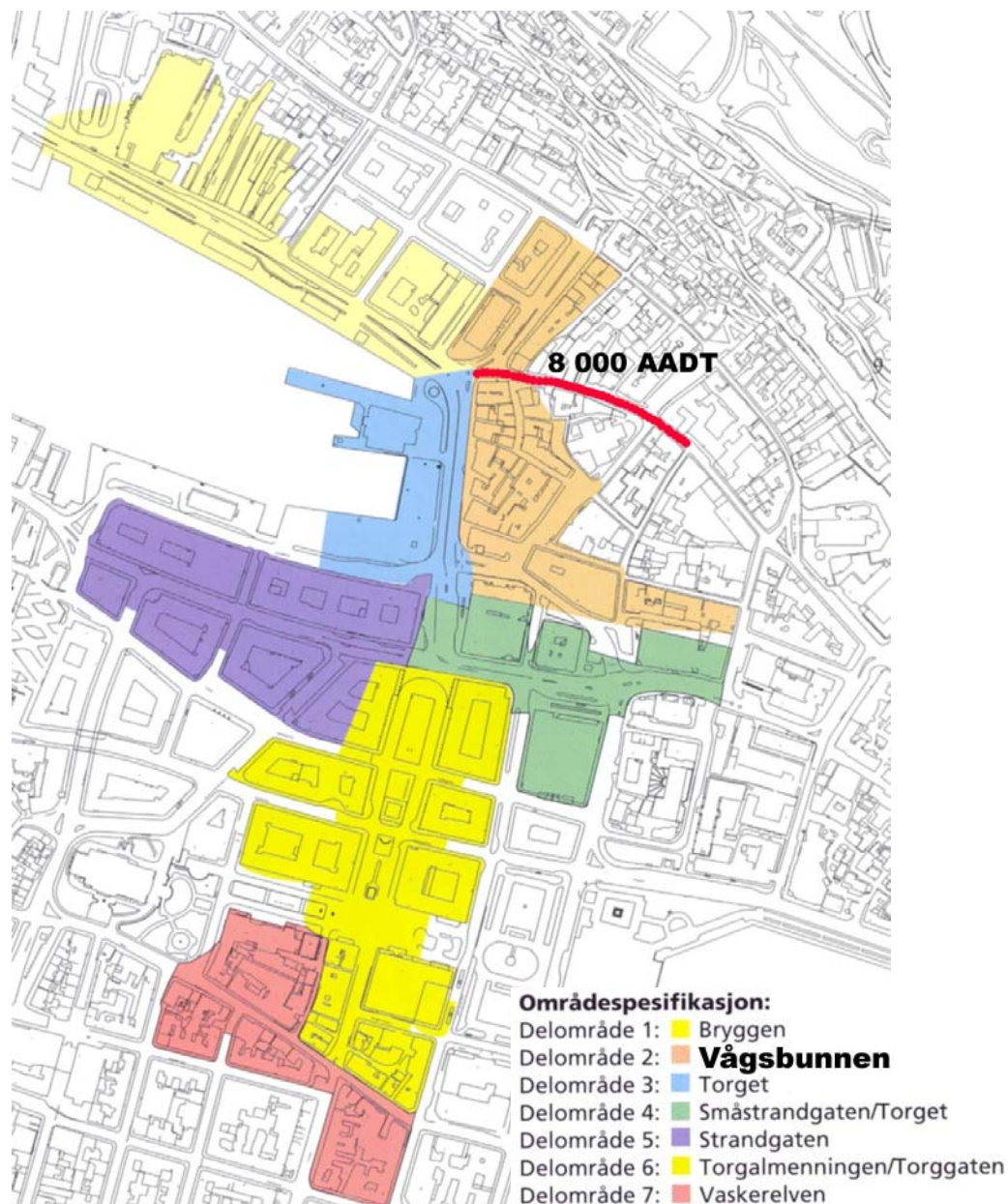
Table 8.42 indicates that both Vågsbunnen and Strandgaten have a medium pedestrian intensity both days, except Strandgaten on Saturdays having a high pedestrian intensity at this time. This is the only similarity between the streets with regard to street use. Vågsbunnen has a high level of social street activity as opposed to Strandgaten with low social street activity. Consequently, Vågsbunnen has a high social performance ratio; in fact, the highest among all the participating locations in the ULprogram.

The Social Performance Ratio for Vågsbunnen and Strandgaten is, as previously described, not a factual ratio but purely an indication. However, the result is indisputable: Vågsbunnen is not a busy area but approximately 50% of the people that appear tend to stay behind perform some sort of social street activity. Strandgaten is a busy shopping street but the strolling shoppers do not seem to rest. The same result is apparent both Saturdays and Tuesdays.

Factual registrations and subjective observations and analysis indicate that Vågsbunnen has a high social street activity and Strandgaten a low activity. Of the two, Vågsbunnen is the ultimate social arena with the highest registered social performance ratio in the UL program.

## 8.7.7 Social Street Activity versus Motorized Traffic Volume

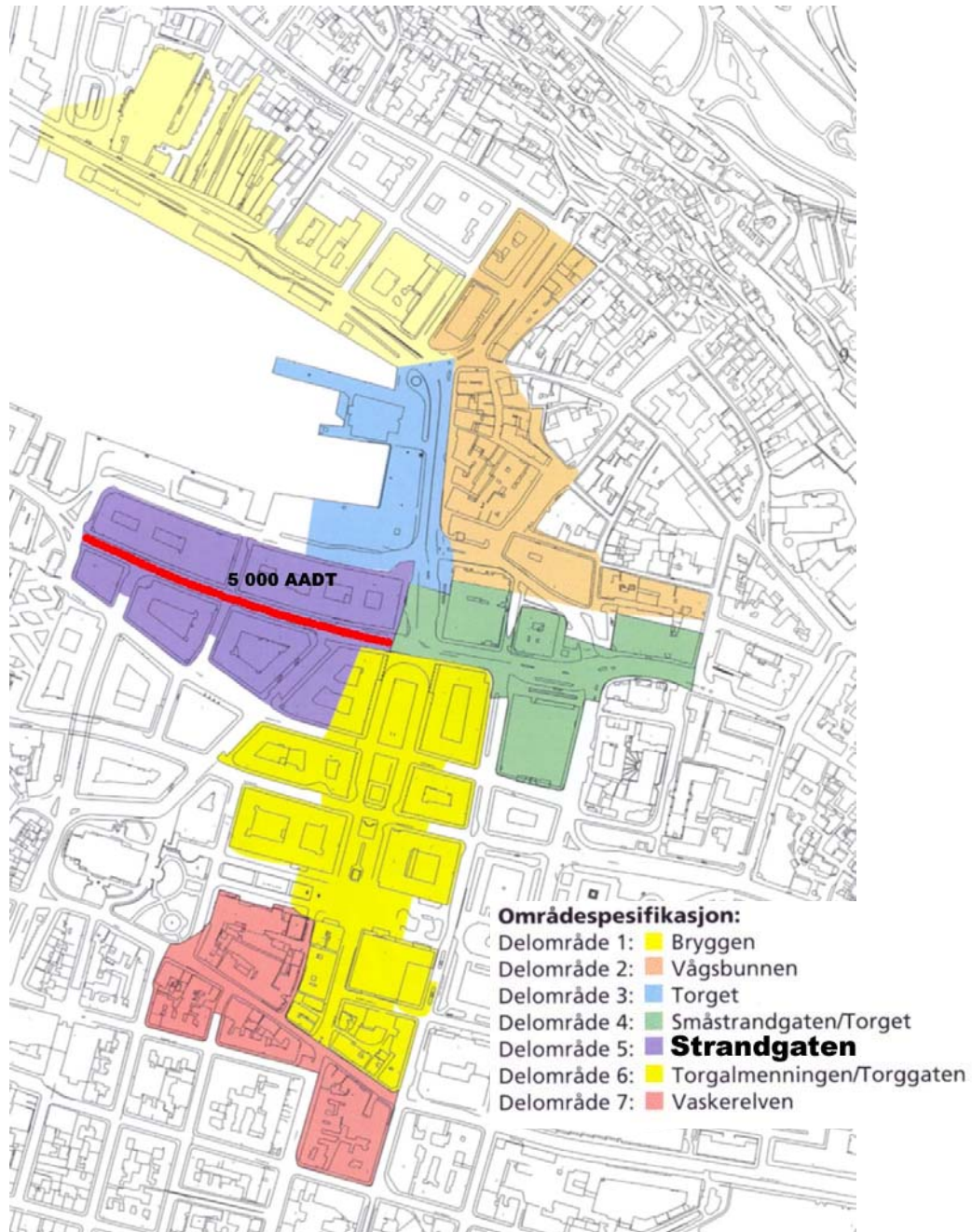
### Motorized Traffic Volume/ *Vågsbunnen*



**Figure 8.32:**  
*Vågsbunnen* indicated with beige. Kong Oscars gate, with a motorized traffic volume at 8 000 is indicated with red.

The registered part of *Vågsbunnen* is a pedestrian zone except the first part of Kong Oscars gate with a motorized traffic volume at 8 000 AADT.

## Motorized Traffic Volume/ Strandgata



**Figure 8.33:**  
*The registrations in Strandgaten are indicated by violet. The actual street, with a motorized traffic volume at 5 000 is indicated with red.*

Strandgaten has a motorized traffic volume at 8 000 AADT.



**The street as an extended road notion**  
Part D: Analysis and Conclusion (Chapters 8 & 9)

## Summary of Data

SOCIAL ARENA	B SOCIAL FACTORS	C SOCIAL COMFORT	D SOCIAL ACTIVITY Plot mean (peak)	F PEDEST. INTENSITY Per hour mean (peak)	H MOTORIZED TRAFFIC VOLUME AADT
<b>Saturday</b>					
<b>Vågsbunnen</b> summer	<b>Narrow/intimate</b> Seating Café/outdoor	<b>Well-being</b> Safety crime	<b>175</b> (10am-4pm)	<b>413</b> (850/ 1 pm)	<b>0/ 8 000</b>
<b>Vågsbunnen</b> Winter	<b>Seating</b> Cultural offers	<b>Well-being</b> Safety crime	No data	<b>204</b> (650/ 1 pm)	<b>0/ 8 000</b>
<b>Strandgaten</b> Summer	<b>Narrow/intimate</b> Bushes/trees Seating Café/outdoor	<b>Well-being</b> Safety crime	<b>20</b> (10am-4pm)	<b>1013</b> (3300/ 1pm)	<b>5 000</b>
<b>Strandgaten</b> Winter	<b>Seating</b> Cultural offers	<b>Well-being</b>	No data	<b>783</b> (3050/ 1 pm)	<b>5 000</b>
<b>Tuesday</b>					
<b>Vågsbunnen</b> summer	<b>Seating</b> Commercial Narrow/intimate Café/outdoor	<b>Well-being</b> Safety crime	<b>170</b> (10am-4pm/ 7pm-1am)	<b>308</b> (550/ 1pm)	<b>0/ 8 000</b>
<b>Vågsbunnen</b> Winter	<b>Cultural offers</b> <b>Seating</b> <b>Bushes/trees</b> Narrow/intimate Many people Café/outdoor Quiet/peace	<b>Well-being</b> Safety crime	No data	<b>258</b> (450/ 4pm)	<b>0/ 8 000</b>
<b>Strandgaten</b> Summer	<b>Narrow/intimate</b> Commercial Café/outdoor Seating	<b>Well-being</b> Safety crime	<b>14</b> (10am-4pm)	<b>725</b> (1850 1pm)	<b>5 000</b>
<b>Strandgaten</b> Winter	<b>Café/outdoor</b> Bushes/trees Nice buildings Seating Cultural offers	<b>Well-being</b> Safety crime	No data	<b>683</b> (1450/ 1pm/4pm)	<b>5 000</b>

**Table 8.43:**

### **SUMMARY OF DATA**

for Vågsbunnen and Strandgaten, Saturdays and Tuesdays. Mean values for summer season registered 10 am and 4 pm during two Saturdays. Order of categories according to score with the highest score in bold. \*The parameter "social factor" is derived from weekend-registrations (Saturdays and Sundays) and weekday-registration (Tuesdays and Thursdays). \*\* Winter registration obtained at one Saturday at 13.15. Registrations for "Motorized Traffic Volume" are based on yearly mean values: AADT and might differ seasonally.



**The street as an extended road notion**  
 Part D: Analysis and Conclusion (Chapters 8 & 9)

SOCIAL ARENA	D SOCIAL ACTIVITY Plot mean (peak)	F PEDEST. INTENSITY Per hour mean (peak)	G SOCIAL PERFORMANCE RATIO D/F	H MOTORIZED TRAFFIC VOLUME
<b>Saturday</b>				
Vågsbunnen	3	2	3	0
Strandgata	1	3	1	2
<b>Tuesday</b>				
Vågsbunnen	3	2	3	0
Strandgata	1	2	1	2

**Table 8.44:**  
**SUMMARY OF DATA CONVERTED INTO POINTS**  
*Relationship between Social Activity, Pedestrian Intensity, Social Performance Ratio and **Motorized Traffic Volume** for Vågsbunnen and Strandgaten..  
 Summer registrations only.*

## Summary

As indicated by Section 8.7.7 Vågsbunnen is the ultimate social arena. The reason for this varies, but the fact that basically the whole area is a car-free zone is undoubtedly a strong contributing factor.

Strandgaten is not an equally social arena as Vågsbunnen although the motorized traffic is modest: 5 000 AADT. There is no indication that this traffic is a disturbing factor for the insignificant social street activity that is performed.

Factual registrations and subjective observations and appraisals indicate that motorized traffic volume is an insignificant contributing factor to restrict social street activity in Strandgaten, but there is an indication that the absence of car traffic is appreciated in Vågsbunnen although people is not mentioning it as a appreciating factor.

## 8.7.8 Social Street Activity versus Architectural Attractiveness

### Architectural attractiveness / *Vågsbunnen*

According to the Bergen report *Vågsbunnen* has a unique street structure and a modest street dimension compared to the rest of the study areas. The street pattern is narrow and twisted, typical of the medieval age. The buildings in the area are very varied both with regard to age and building styles covering a period from medieval times to the present day. The houses are generally two-story. The street and the adjacent buildings have a varying maintenance level, from bad to excellent. The street floor is generally granite. *Vågsbunnen* is the only study area with mentionable vegetation, covering 40 trees. There are quite a few benches for seating and the outdoor lighting is well developed with many light fittings (more than any other study areas) although with a modest, but satisfactory, lighting level.



**Figure 8.34:**

*Vågsbunnen* is narrow and twisted as typical of medieval urban planning structure and appealing to the human scale.

## **Architectural attractiveness / Strandgaten**

According to the Bergen report Strandgaten is characterized by buildings erected with neo-classicistic architecture subsequent to the city fire in 1918. The building height, use of materials and building character is homogeneous for the whole street giving it a distinct architectural impression. The street is relatively narrow and the street floor reserved for car traffic occupies most of the street width. The pavements have asphalt paving and the maintenance level of the street floor is medium good, lower than the general impression of the street. The street furniture is far between and the lighting level is high although the number of light fittings is low. Strandgaten is a typical commercial street with a wide range of shops, inclusive chain shops such like H&M. Strandgaten has the highest service offer in the study area, but the catering service is modest. The accessibility for cars and public transport is good.



**Figure 8.35:**  
*Strandgaten, with homogeneous architecture and a relatively heavy motorized traffic.*

**The street as an extended road notion**  
Part D: Analysis and Conclusion (Chapters 8 & 9)

No building in Strandgaten distinguishes itself with regard to architectural significance. It is the homogeneous architectural impact, including the well proportional urban space that characterizes Strandgaten and make it architectural attractive. Subject to the UL program, the street has undergone a thorough rehabilitation including new street floor and street furniture. However, no research has been done after the completion of the renewal of the street.

## Summary of Data

SOCIAL ARENA	<b>B</b> SOCIAL FACTORS	<b>C</b> SOCIAL COMFORT	<b>D</b> SOCIAL ACTIVITY Plot mean (peak)	<b>F</b> PEDEST. INTENSITY Per hour mean (peak)	<b>H</b> ARCHITECTURAL ATTRACTIVENESS
<b>Saturday</b>					
Vågsbunnen summer	<b>Narrow/intimate</b> Seating Café/outdoor	<b>Well-being</b> Safety crime	<b>175</b> (10am-4pm)	<b>413</b> (850/ 1 pm)	<b>Narrow/intimate</b> Seating
Vågsbunnen Winter	<b>Seating</b> Cultural offers	<b>Well-being</b> Safety crime	No data	<b>204</b> (650/ 1 pm)	<b>Seating</b>
Strandgaten Summer	<b>Narrow/intimate</b> Bushes/trees Seating Café/outdoor	<b>Well-being</b> Safety crime	<b>20</b> (10am-4pm)	<b>1013</b> (3300/ 1pm)	<b>Narrow/intimate</b> Bushes/trees Seating
Strandgaten Winter	<b>Seating</b> Cultural offers	<b>Well-being</b>	No data	<b>783</b> (3050/ 1 pm)	<b>Seating</b>
<b>Tuesday</b>					
Vågsbunnen summer	<b>Seating</b> Commercial Narrow/intimate Café/outdoor	<b>Well-being</b> Safety crime	<b>170</b> (10am-4pm/ 7pm-1am)	<b>308</b> (550/ 1pm)	<b>Seating</b> Narrow/intimate
Vågsbunnen Winter	<b>Cultural offers</b> <b>Seating</b> <b>Bushes/trees</b> Narrow/intimate Many people Café/outdoor Quiet/peace	<b>Well-being</b> Safety crime	No data	<b>258</b> (450/ 4pm)	<b>Seating</b> <b>Bushes/trees</b> Narrow/intimate
Strandgaten Summer	<b>Narrow/intimate</b> Commercial Café/outdoor Seating	<b>Well-being</b> Safety crime	<b>14</b> (10am-4pm)	<b>725</b> (1850 1pm)	<b>Narrow/intimate</b> Seating
Strandgaten Winter	<b>Café/outdoor</b> Bushes/trees Nice buildings Seating Cultural offers	<b>Well-being</b> Safety crime	No data	<b>683</b> (1450/ 1pm/4pm)	Bushes/trees Nice buildings Seating

**Table 8.45:**

### **SUMMARY OF DATA**

for Vågsbunnen and Strandgaten, Saturdays and Tuesdays, summer and winter.  
. Order of categories according to score with the highest score indicated in bold.



**The street as an extended road notion**  
 Part D: Analysis and Conclusion (Chapters 8 & 9)

SOCIAL ARENA	D SOCIAL ACTIVITY Plot mean (peak)	F PEDEST. INTENSITY Per hour mean (peak)	G SOCIAL PERFORMANCE RATIO D/F	I ARCHITECTURAL ATTRACTIVENESS
<b>Saturday</b>				
Vågsbunnen	3	2	3	3
Strandgata	1	3	1	2
<b>Tuesday</b>				
Vågsbunnen	3	2	3	3
Strandgata	1	2	1	2

**Table 8.46:**  
**SUMMARY OF DATA CONVERTED INTO POINTS**  
*Relationship between Social Activity, Pedestrian Intensity, Social Performance Ratio and **Architectural Attractiveness** for Vågsbunnen nad Strandgaten..  
 Summer registrations only.*

## Summary

In Vågsbunnen and Strandgaten the respondents primarily appreciate the factors “Narrow/intimate” and “Seating”., although “Bushes/trees” are mentioned both places and “Nice buildings” is appreciated in Strandgaten on a winter Tuesday. However, there it is not doubt that the architectural attractiveness, the building environment and the narrow and bendy medieval urban structure, appeal to people and invite them to stay behind.

Factual registrations and subjective observations and appraisals indicate that architectural attractiveness is a strong contributing factor to generate social street activity in Vågsbunnen and a certain contributing factor in Strandgaten.

## 8.8 Bergen: Bryggen/ Torgalmenningen

### 8.8.1 Summary of Data

(derived from Tables 7.71 – 7.94, Section 7.3.5)

For Torgalmenningen/ Bryggen the following data are registered:

SOCIAL ARENA	A SOCIAL INTENT	B SOCIAL FACTORS	C SOCIAL COMFORT	D SOCIAL ACTIVITY Plot mean (peak)	E SOCIAL DURATION Pr hour	F PEDEST. INTENSITY Per hour mean (peak)
<b>Saturday</b>						
Bryggen summer	<b>Shopping Stroll</b> Café/ resto Passing by	<b>Narrow/intimate</b> Bushes/trees Seating Café/resto	<b>Well-being</b> Safety crime Safety traffic	<b>105</b> (10am-4pm/ 7pm-1am)	<b>0-10 min</b> 11-30 min 1-3 hours	<b>1983</b> (3750/ 1 pm)
Bryggen Winter	<b>Passing by</b> Café/ resto Leisure	<b>Seating</b> Cultural offers	<b>Well-being</b> Safety traffic	no data	<b>0-10 min</b> 11-30 min 31-60 min	<b>420</b> (950/ 1 pm)
Torgalmenningen Summer	<b>Passing by</b> Leisure Café/ resto Stroll Public transp.	<b>Narrow/intimate</b> Bushes/trees	<b>Well-being</b> <b>Safety crime</b>	<b>153</b> (10am-4pm)	<b>11-30 min</b> 31-60 min 0-10 min	<b>3125</b> (6100/ 1 pm)
Torgalmenningen Winter	<b>Shopping Stroll</b>	<b>Seating</b> Cultural offers	<b>Safety crime</b> Well-being Safety traffic	no data	<b>11-30 min</b> 0-10 min 31-60 min 4-6 hours	<b>1367</b> (2450/ 4 pm)
<b>Tuesday</b>						
Bryggen summer	<b>Stroll</b> Work Leisure Passing by	<b>Narrow/intimate</b> Commercial Café/resto Seating	<b>Well-being</b> Safety crime Safety traffic	<b>90</b> (7pm-1am)	<b>11-30 min</b> 0-10 min 31-60 min	<b>1633</b> (2700/ 1 pm)
Bryggen Winter	<b>Stroll</b> Work Passing by	<b>Many people</b>	<b>Well-being</b> Safety traffic	no data	<b>0-10 min</b> > 6 hours	<b>508</b> (1150/ 4 pm)
Torgalmenningen Summer	<b>Stroll</b> Work Leisure Passing by	<b>Narrow/intimate</b> Bushes/trees	<b>Well-being</b> Safety crime	<b>145</b> (10am-4pm)	<b>0-10 min</b> <b>11-30 min</b> <b>1-3 hours</b> 31-60 min	<b>2383</b> (4000/ 1 pm)
Torgalmenningen Winter	<b>Shopping</b> <b>Passing by</b>	<b>Narrow/intimate</b> <b>Bushes/trees</b> Quite/peace Cultural offers	<b>Well-being</b>	no data	<b>11-30 min</b> 0-10 min	<b>1133</b> (2350/ 4 pm)

**Table 8.47:**

**Summary of data** for Torgalmenningen and Bryggen, Saturdays and Tuesdays. Mean values for summer season registered 10 am and 4 pm during two Saturdays. Order of categories according to score with the highest score in bold.



## 8.8.2 Social intent (A)

SOCIAL ARENA	A SOCIAL INTENT
<b>Saturday</b>	
<b>Bryggen</b> summer	<b>Shopping</b> <b>Stroll</b> Café/ resto Passing by
<b>Bryggen</b> winter	<b>Passing by</b> Café/ resto Leisure
<b>Torg- almenningen</b> Summer	<b>Passing by</b> Leisure Café/ resto Stroll Public transp.
<b>Torg- almenningen</b> winter	<b>Shopping</b> Stroll
<b>Tuesday</b>	
<b>Bryggen</b> summer	<b>Stroll</b> Work Leisure Passing by
<b>Bryggen</b> winter	<b>Stroll</b> Work Passing by
<b>Torg- almenningen</b> Summer	<b>Stroll</b> Work Leisure Passing by
<b>Torg- almenningen</b> winter	<b>Shopping</b> <b>Passing by</b>

Both Bryggen and Torgalmenningen are typical arenas for summer Saturday “Shopping” and “Passing by” activities. Respondents are also visiting these places due to “Café/resto”-facilities and leisure. On Tuesdays strolling is the main reason for a visit except in Torgalmenningen during winter when “Shopping” and “Passing by” are equally the most important social intents.

**Table 8.48:**  
*Social intent, Bryggen and  
 Torgalmenningen*

### 8.8.3 Social Factors (B)

SOCIAL ARENA	B SOCIAL FACTORS
<b>Saturday</b>	
Bryggen summer	<b>Narrow/intimate</b> Bushes/trees Seating Café/resto
Bryggen winter	<b>Seating</b> Cultural offers
Torg- almenningen Summer	<b>Narrow/intimate</b> Bushes/trees
Torg- almenningen winter	<b>Seating</b> Cultural offers
<b>Tuesday</b>	
Bryggen summer	<b>Narrow/intimate</b> Commercial Café/resto Seating
Bryggen winter	<b>Many people</b>
Torg- almenningen Summer	<b>Narrow/intimate</b> Bushes/trees
Torg- almenningen winter	<b>Narrow/intimate</b> <b>Bushes/trees</b> Quiet/peace Cultural offers

The most common social factor appreciated by the respondents is “Narrow/intimate” although “Seating” and “Many people are mostly appreciated on winter Saturdays in Torgalmenningen and winter Tuesdays in Bryggen respectively. “Seating” is especially noticeable in winter both places, particularly on Saturdays.

**Table 8.49:**  
*Social factors, Bryggen and Torgalmenningen*

### 8.8.4 Social Comfort (C)

SOCIAL ARENA	C SOCIAL COMFORT
<b>Saturday</b>	
Bryggen summer	<b>Well-being</b> Safety crime Safety traffic
Bryggen winter	<b>Well-being</b> Safety traffic
Torg- almenningen Summer	<b>Well-being</b> <b>Safety crime</b>
Torg- almenningen winter	<b>Safety crime</b> Well-being Safety traffic
<b>Tuesday</b>	
Bryggen summer	<b>Well-being</b> Safety crime Safety traffic
Bryggen winter	<b>Well-being</b> Safety traffic
Torg- almenningen Summer	<b>Well-being</b> Safety crime
Torg- almenningen winter	<b>Well-being</b>

The respondents feel generally well in both Bryggen and Torgalmenningen. What is noticeable is that people feel safe towards motorized traffic in Bryggen both on Saturdays and Tuesdays – summer and winter despite a traffic load of 18 000 AADT.

**Table 8.50:**  
*Social comfort, Bryggen and Torgalmenningen*

## 8.8.5 Social Duration (E)

SOCIAL ARENA	E SOCIAL DURATION
<b>Saturday</b>	
<b>Bryggen</b> summer	<b>0-10 min</b> 11-30 min 1-3 hours
<b>Bryggen</b> winter	<b>0-10 min</b> 11-30 min 31-60 min
<b>Torg- almenningen</b> Summer	<b>11-30 min</b> 31-60 min 0-10 min
<b>Torg- almenningen</b> winter	<b>11-30 min</b> 0-10 min 31-60 min 4-6 hours
<b>Tuesday</b>	
<b>Bryggen</b> summer	<b>11-30 min</b> 0-10 min 31-60 min
<b>Bryggen</b> winter	<b>0-10 min</b> > 6 hours
<b>Torg- almenningen</b> Summer	<b>0-10 min</b> <b>11-30 min</b> <b>1-3 hours</b> 31-60 min
<b>Torg- almenningen</b> winter	<b>11-30 min</b> 0-10 min

A clear tendency is longer visits in Torgallmenning than Bryggen especially on Saturdays, 11-30 min and 0-10 min respectively. The longest social duration occurs during winter.

**Table 8.51:**  
*Social duration, Bryggen and Torgalmenningen*

## **8.8.6 Social Performance Ratio (G)**

### **Social Street Activity**

The plotting for Social Street Activity is presented as the mean value registered at the approximate following times: 10.00 am, 1.00 pm, 4.00 pm, 7.00 pm, 10.00 pm and 1.00 am. The values have been summarized and divided by the six registrations. This is not a hourly registration but a situational plot. Peak period (10 am-4 pm or 7 pm-1 am) is indicated in brackets.

### **Pedestrian Intensity**

Data for Pedestrian Intensity is presented as the mean value registered at the following times: 10.00 am-10.15 am, 1.00 pm-1.15 pm, 4.00 pm-4.15 pm, 7.00 pm-7.15 pm, 10.00 pm-10.15 pm, 1.00 am-1.15 am. The values have been multiplied by four to attain an hourly registration. Peak registration is indicated in brackets.

**The street as an extended road notion**  
 Part D: Analysis and Conclusion (Chapters 8 & 9)

## Summary of Data

The following data derive s from chapter 8.8.1:

SOCIAL ARENA	D SOCIAL STREET ACTIVITY Plot mean (peak)	F PEDEST. INTENSITY Per hour mean (peak)	G SOCIAL PERFORMANCE RATIO D/F
<b>Saturday</b>			
<b>Bryggen</b> summer	105 (10am-4pm/ 7pm-1am)	1983 (3750/ 1 pm)	5,3 % s
<b>Bryggen</b> winter	no data	420 (950/ 1 pm)	
<b>Torg- almenningen</b> Summer	153 (10am-4pm)	3125 (6100/ 1 pm)	4,9 % s
<b>Torg- almenningen</b> winter	no data	1367 (2450/ 4 pm)	
<b>Tuesday</b>			
<b>Bryggen</b> summer	93 (7pm-1am)	1633 (2700/ 1 pm)	5,7 % s
<b>Bryggen</b> winter	no data	508 (1150/ 4 pm)	
<b>Torg- almenningen</b> Summer	140 (10am-4pm)	2383 (4000/ 1 pm)	5,9 % s
<b>Torg- almenningen</b> winter	no data	1133 (2350/ 4 pm)	

**Table 8.52:**  
*Social activity versus pedestrian intensity; S indicating and w indicating winter.*

Converted into points the summer data are as follows:

SOCIAL ARENA	D SOCIAL STREET ACTIVITY Plot mean (peak)	F PEDEST. INTENSITY Per hour mean (peak)	G SOCIAL PERFORMANCE RATIO D/F
<b>Saturday</b>			
<b>Bryggen</b>	3	3	2
<b>Torg- almenningen</b>	3	3	1
<b>Tuesday</b>			
<b>Bryggen</b>	2	3	2
<b>Torg- almenningen</b>	3	3	2

**Table 8.53:**  
*Social Performance Ratio for Bryggen and Torgalmenningen as the ratio between Social Street Activity and Pedestrian Intensity. Summer registrations only.*

## Summary

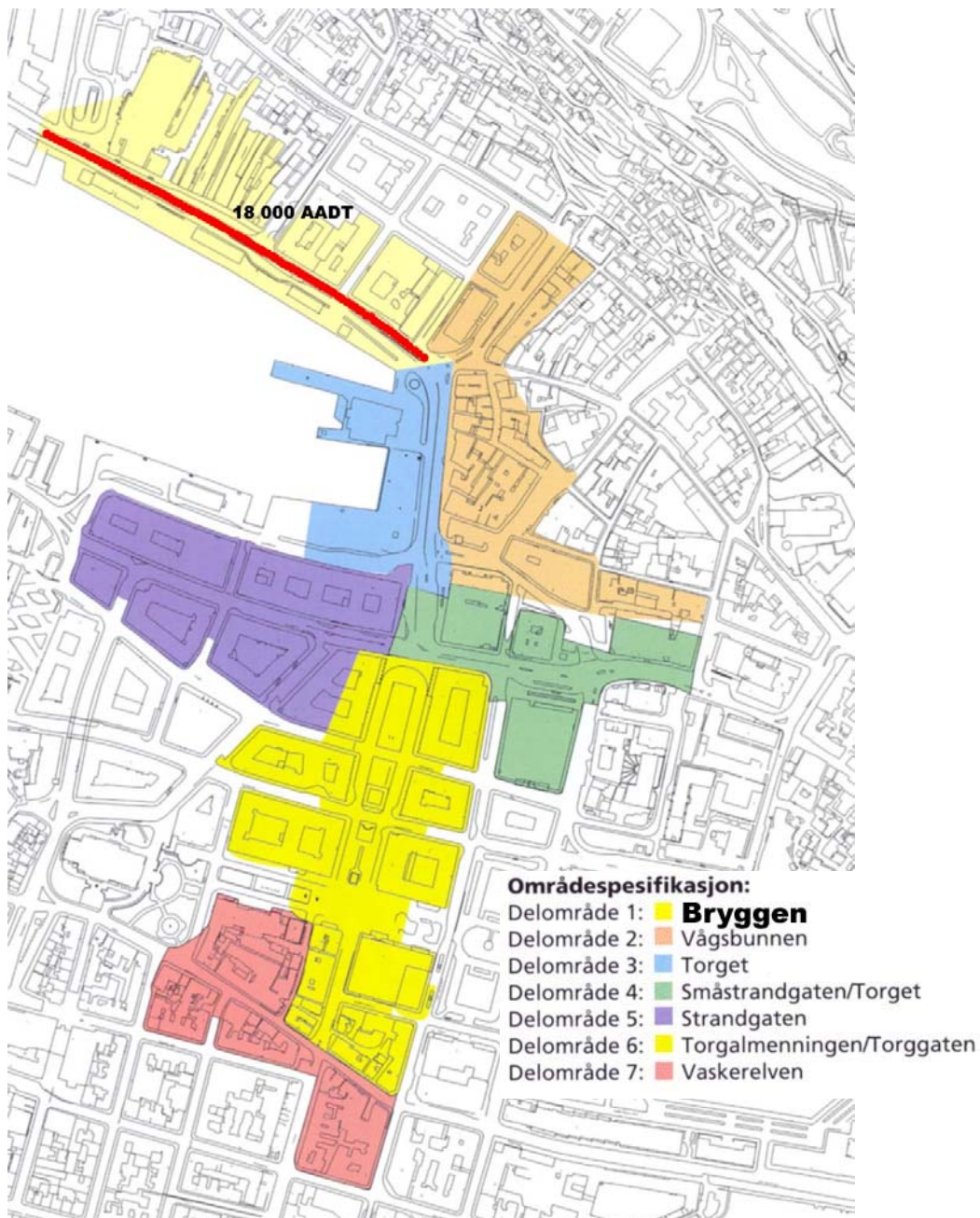
Table 8.53 indicates that both Bryggen and Torgalmenningen have a high level of pedestrian intensity and social street activity, with an exception for Bryggen on Tuesday when the social street activity is at a medium level. The social performance ratio is similar for both streets (around 5%), both Saturdays and Tuesdays, namely at a low medium (just above the medium ratio limit) except for a low value Torgalmenningen on Saturdays. As the social performance ratio is the indicator to what degree pedestrian intensity is transformed into social street activity, one might be surprised to observe that a noticeable low percentage of the transport pedestrians actually take a break performing a social street activity both in Bryggen and Torgalmenningen. This is especially evident for Torgalmenningen, regarded by many, except the natives of Bergen, as the ultimate social arena.

Factual registrations and subjective observations and analysis indicate that both Bryggen and Torgalmenningen have a high pedestrian intensity and social street activity. However, neither might be regarded as typical social arenas as the social performance ratio is low both places.



## 8.8.7 Social Street Activity versus Motorized Traffic Volume

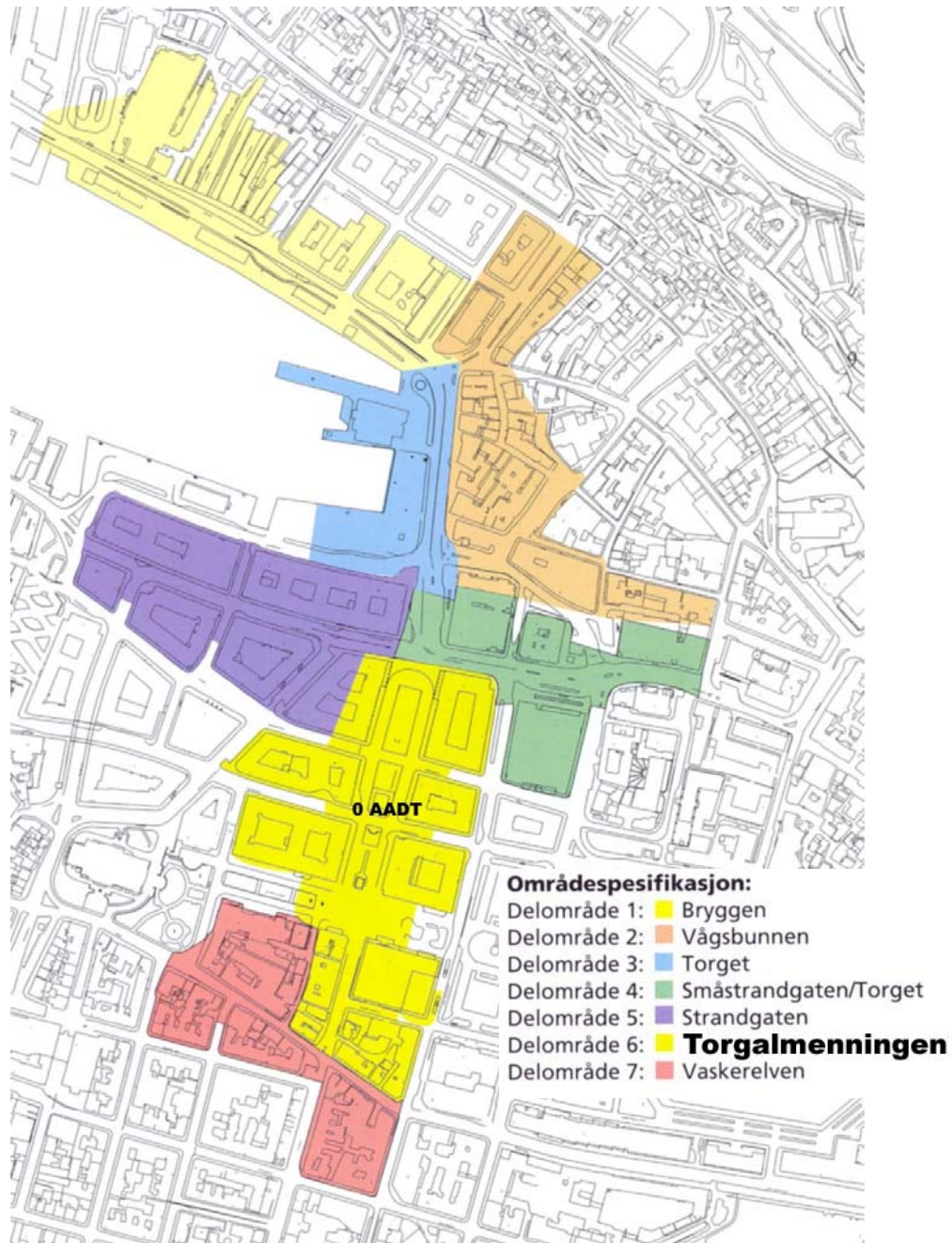
### Motorized Traffic Volume/ *Bryggen*



**Figure 8.36:**  
*The registrations for Bryggen are indicated with pale yellow.  
The actual street, with a motorized traffic volume at 18 000 is indicated with red.*

Bryggen has a motorized traffic volume at 18 000 AADT.

## Motorized Traffic Volume/ *Torgalmenningen*



**Figure 8.37:**  
The registrations for Torgalmenningen are indicated with bright yellow.  
The square is a car-free zone.

Torgalmenningen is a car-free zone with necessary traffic only for transport to shops.

**The street as an extended road notion**  
Part D: Analysis and Conclusion (Chapters 8 & 9)

## Summary of Data

SOCIAL ARENA	B SOCIAL FACTORS	C SOCIAL COMFORT	D SOCIAL ACTIVITY Plot mean (peak)	F PEDEST. INTENSITY Per hour mean (peak)	H MOTORIZED TRAFFIC VOLUME AADT
<b>Saturday</b>					
<b>Bryggen</b> summer	<b>Narrow/intimate</b> Bushes/trees Seating Café/resto	<b>Well-being</b> Safety crime Safety traffic	<b>105</b> (10am-4pm/ 7pm-1am)	<b>1983</b> (3750/ 1 pm)	<b>18 000</b>
<b>Bryggen</b> Winter	<b>Seating</b> Cultural offers	<b>Well-being</b> Safety traffic	no data	<b>420</b> (950/ 1 pm)	<b>18 000</b>
<b>Torg- almenningen</b> Summer	<b>Narrow/intimate</b> Bushes/trees	<b>Well-being</b> <b>Safety crime</b>	<b>153</b> (10am-4pm)	<b>3125</b> (6100/ 1 pm)	<b>0</b>
<b>Torg- almenningen</b> Winter	<b>Seating</b> Cultural offers	<b>Safety crime</b> Well-being Safety traffic	no data	<b>1367</b> (2450/ 4 pm)	<b>0</b>
<b>Tuesday</b>					
<b>Bryggen</b> summer	<b>Narrow/intimate</b> Commercial Café/resto Seating	<b>Well-being</b> Safety crime Safety traffic	<b>90</b> (7pm-1am)	<b>1633</b> (2700/ 1 pm)	<b>18 000</b>
<b>Bryggen</b> Winter	<b>Many people</b>	<b>Well-being</b> Safety traffic	no data	<b>508</b> (1150/ 4 pm)	<b>18 000</b>
<b>Torg- almenningen</b> Summer	<b>Narrow/intimate</b> Bushes/trees	<b>Well-being</b> Safety crime	<b>145</b> (10am-4pm)	<b>2383</b> (4000/ 1 pm)	<b>0</b>
<b>Torg- almenningen</b> Winter	<b>Narrow/intimate</b> <b>Bushes/trees</b> Quiet/peace Cultural offers	<b>Well-being</b>	no data	<b>1133</b> (2350/ 4 pm)	<b>0</b>

**Table 8.54:**

**Summary of data** for Torgalmenningen and Bryggen, Saturdays and Tuesdays. Mean values for summer season registered 10 am and 4 pm during two Saturdays. Order of categories according to score with the highest score in bold.

SOCIAL ARENA	D SOCIAL ACTIVITY Plot mean (peak)	F PEDEST. INTENSITY Per hour mean (peak)	G SOCIAL PERFORMANCE RATIO D/F	H MOTORIZED TRAFFIC VOLUME
<b>Saturday</b>				
<b>Bryggen</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>3</b>
<b>Torgalmenningen</b>	<b>3</b>	<b>3</b>	<b>1</b>	<b>0</b>
<b>Tuesday</b>				
<b>Bryggen</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>3</b>
<b>Torgalmenningen</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>0</b>

**Table 8.55:**

### **SUMMARY OF DATA CONVERTED INTO POINTS**

Relationship between Social Activity, Pedestrian Intensity, Social Performance Ratio and **Motorized Traffic Volume** for Bryggen and Torgalmenningen. Summer registrations only.

## **Summary**

Torgalmenningen has no motorized traffic and is consequently not affected by such. However, Bryggen has (or had during the registration) a four line transport artery adjacent to the narrow pavement along the famous wharf -buildings. The pedestrians here were to a certain degree affected by the 18 000 motorized vehicles passing by in relatively high speed.

Factual registrations and subjective observations and appraisals indicate that car traffic volume might be a contributing factor to restrict social street activity in Bryggen, and the absence of car traffic seems to be appreciated in Torgalmenningen, although it is missing as a social factor.



## 8.8.8 Social Street Activity versus Architectural Attractiveness

### Architectural attractiveness / *Bryggen*

Bryggen is described by the UNESCO World Heritage Centre as:

*“Bryggen, the old wharf of Bergen, is a reminder of the town's importance as part of the Hanseatic League's trading empire from the 14th to the mid-16th century. Many fires, the last in 1955, have ravaged the beautiful wooden houses of Bryggen but its main structure has been preserved. Many of the remaining 58 buildings are now used as artists' studios”.*



**Figure 8.38:**  
*Bryggen in Bergen, featuring on the UNESCO World HeritageList.*

***The street as an extended road notion***

Part D: Analysis and Conclusion (Chapters 8 & 9)

According to the Bergen report, Bryggen is architecturally divided into two, the north part consisting of the original wharfs in timber and the south part with brick “lookalikes” with the traditional roof-scape. This façade constitutes an architectural “row of teeth”, a sought photogenic label of the city of Bergen. There is hardly any particular building within Bryggen that is outstandingly spectacular in the whole building block. The Bryggen area is constituted by the main street with motorized traffic (cars and buses) and narrow crosswise alleyways between the wharfs. The wharfs and the alleys are very picturesque and of high architectural quality and historic value. The backyards comprising small urban spaces are probably the most architecturally attractive.

The maintenance level of the buildings is good not surprisingly as their function is primarily directed towards tourism. However the street floor, visually dominated by

the presence of heavy traffic, is constituted by asphalt and granite, is in need of rehabilitation. The areas reserved for pedestrians and car traffic are equal in width. The building side of Bryggen has ordinary pavements while the waterfront is accessible for walking. The area has no benches for seating, although the waterfront offers facilities for rest. The shops offer goods addressed to tourists and there are quite a few restaurants and cafés. The accessibility is good.



**Figure 8.39:**  
*Bryggen in Bergen, pavement.*



## **Architectural attractiveness / Torgalmenningen**

According to the Bergen report, Torgalmenningen was erected after the city fire in 1916 during the same period as Strandgaten. The neo-classicistic architectural style is prevailing, although the functionalistic Sundt-building is the most dominant architectural building element. The buildings forming this magnificent urban space <sup>D18</sup> are erected with the same height and in the same material: painted rendered brick. The maintenance level is good; however, the asphalt paving was in poor condition during the study but has now been rehabilitated to a high aesthetical level. Torgalmenningen is a pedestrian zone and is best provided with street furniture among the study areas, with 28 benches for seating. The square is blessed with several pieces of art, the new arcade columns and “Blue Stone” (Fig 8.40) being the most remarkable, the latter having become the social meeting point of Bergen after being condemned by most citizens.



**Figure 8.40:**  
*Torgalmenningen with the social meeting point: the “Blue Stone”. The new arcades were not built.*

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<sup>D18</sup> *designed by the architect Finn Berner*

***The street as an extended road notion***  
Part D: Analysis and Conclusion (Chapters 8 & 9)

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***Figures 8.41 & 8.42:***

*Left: A sketch of the proposed Sundt-building.*

*Right: The erected building was more architecturally spectacular than the early proposal.*

One building breaks the exceptionally homogeneous architectural characteristic of Torgalmenningen, namely the department store Sundt-building <sup>D19</sup> (Figs 8.41 & 8.42). The Sundt-building was the first functionalistic building in Norway to be scheduled as a monument. It was erected in 1938, 10 years after the completion of the square.

Torgalmenningen today signifies a unique urban setting, subjectively regarded as the most spectacular and architectural significant urban space in Norway. Although the square has been subjected to thorough rehabilitation in the UL program, introducing new arcades and a clearing of the somewhat untidy location of the street furniture, during the registration Torgalmenningen represents an urban square of high architectural attractiveness.

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<sup>D19</sup> *designed by the architect Per Grieg (1897-1962)*

**The street as an extended road notion**  
Part D: Analysis and Conclusion (Chapters 8 & 9)

## Summary of Data

SOCIAL ARENA	B SOCIAL FACTORS	C SOCIAL COMFORT	D SOCIAL ACTIVITY Plot mean (peak)	F PEDEST. INTENSITY Per hour mean (peak)	I ARCHITECTURAL ATTRACTIVENESS
<b>Saturday</b>					
<b>Bryggen</b> summer	<b>Narrow/intimate</b> Bushes/trees Seating Café/resto	<b>Well-being</b> Safety crime Safety traffic	<b>105</b> (10am-4pm/ 7pm-1am)	<b>1983</b> (3750/ 1 pm)	<b>Narrow/intimate</b> Bushes/trees Seating
<b>Bryggen</b> Winter	<b>Seating</b> Cultural offers	<b>Well-being</b> Safety traffic	no data	<b>420</b> (950/ 1 pm)	<b>Seating</b>
<b>Torg- almenningen</b> Summer	<b>Narrow/intimate</b> Bushes/trees	<b>Well-being</b> <b>Safety crime</b>	<b>153</b> (10am-4pm)	<b>3125</b> (6100/ 1 pm)	<b>Narrow/intimate</b> Bushes/trees
<b>Torg- almenningen</b> Winter	<b>Seating</b> Cultural offers	<b>Safety crime</b> Well-being Safety traffic	no data	<b>1367</b> (2450/ 4 pm)	<b>Seating</b>
<b>Tuesday</b>					
<b>Bryggen</b> summer	<b>Narrow/intimate</b> Commercial Café/resto Seating	<b>Well-being</b> Safety crime Safety traffic	<b>90</b> (7pm-1am)	<b>1633</b> (2700/ 1 pm)	<b>Narrow/intimate</b> Seating
<b>Bryggen</b> Winter	<b>Many people</b>	<b>Well-being</b> Safety traffic	no data	<b>508</b> (1150/ 4 pm)	
<b>Torg- almenningen</b> Summer	<b>Narrow/intimate</b> Bushes/trees	<b>Well-being</b> Safety crime	<b>145</b> (10am-4pm)	<b>2383</b> (4000/ 1 pm)	<b>Narrow/intimate</b> Bushes/trees
<b>Torg- almenningen</b> Winter	<b>Narrow/intimate</b> <b>Bushes/trees</b> Quiet/peace Cultural offers	<b>Well-being</b>	no data	<b>1133</b> (2350/ 4 pm)	<b>Narrow/intimate</b> <b>Bushes/trees</b>

**Table 8.56: SUMMARY OF DATA**

for Torgalmenningen and Bryggen, Saturdays and Tuesdays.

Mean values for summer season registered 10 am and 4 pm during two Saturdays.

Order of categories according to score with the highest score in bold.

SOCIAL ARENA	D SOCIAL ACTIVITY Plot mean (peak)	F PEDEST. INTENSITY Per hour mean (peak)	G SOCIAL PERFORMANCE RATIO D/F	I ARCHITECTURAL ATTRACTIVENESS
<b>Saturday</b>				
<b>Bryggen</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>3</b>
<b>Torgalmenningen</b>	<b>3</b>	<b>3</b>	<b>1</b>	<b>3</b>
<b>Tuesday</b>				
<b>Bryggen</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>3</b>
<b>Torgalmenningen</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>3</b>

**Table 8.57:**

**SUMMARY OF DATA CONVERTED INTO POINTS**

Relationship between Social Activity, Pedestrian Intensity, Social Performance Ratio and **Architectural Attractiveness** for Bryggen and Torgalmenningen.

Summer registrations only.

## **Summary**

As previously described, Bryggen and Torgalmenningen are both architectural unique. The high score with regard to architectural attractiveness is unquestionable. This uniqueness is attracting people, although mostly tourists and architects are impressed by the urban qualities of the city centre of Bergen (myself included).

Factual registrations and subjective observations and appraisals indicate that architectural attractiveness seems to be a contributing factor to generate social street activity in both Bryggen and Torgalmenningen although the Social Performance Ratio is low both places.

## 8.9 Hamar: Stortorget/ Østre Torg

### 8.9.1 Summary of data

(derived from Tables 7.95 – 7.111, Section 7.3.6)

For Stortorget/ Østre Torg in Hamar the following data is registered:

SOCIAL ARENA	A SOCIAL INTENT	B SOCIAL FACTORS	C SOCIAL COMFORT	D SOCIAL ACTIVITY Plot mean (peak)	E SOCIAL DURATION	F PEDEST. INTENSITY Pr hour mean (peak)
<b>Saturday</b>						
<b>Stortorget</b>	<b>Culture</b> Passing by Leisure Shopping	<b>Narrow/intimate</b> Car-free zone Street open	<b>Well-being</b>	<b>24 s</b>	<b>0-10 min</b> 11-30 min 31-60 min	<b>297 s</b> (775/ 2pm) <b>263 w</b> (575/ 12am)
<b>Østre Torg</b>	<b>Café/ resto</b> Shopping Stroll Passing by	<b>Narrow/intimate</b> Many people Street open Meeting people Nice buildings Quiet/peace	<b>Well-being</b>	<b>51 s</b>	<b>1-3 hours</b> 31-60 min 0-10 min	<b>571 s</b> (2050/ 12am) <b>203 w</b> (650/ 12am)
<b>Tuesday</b>						
<b>Stortorget</b>	<b>Culture</b> Passing by Leisure Shopping	<b>Narrow/intimate</b> <b>Car-free zone</b> <b>Street open</b>	<b>Well-being</b>	<b>17 s</b>	<b>0-10 min</b> 11-30 min 31-60 min 11-30 min	<b>169 s</b> (300/ 2pm) <b>244 w</b> (450/ 4pm)
<b>Østre Torg</b>	<b>Café/ resto</b> Shopping Stroll Passing by	<b>Narrow/intimate</b> Quite/peace Public transp. Street open Seating	<b>Well-being</b>	<b>21 s</b>	<b>0-10 min</b> <b>11-30 min</b> 1-3 hours 31-60 min	<b>213 s</b> (475/ 12am) <b>116 w</b> (300/ 12am)

**Table 8.58:**

**Summary of data** for Stortorget and Østre Torg, Saturdays and Tuesdays. Mean values for summer season. Order of categories according to score with the highest score in bold.

### 8.9.2 Social Intent (A)

SOCIAL ARENA	A SOCIAL INTENT
<b>Saturdays</b>	
<b>Stortorget</b>	<b>Culture</b> Passing by Leisure Shopping
<b>Østre Torg</b>	<b>Café/ resto</b> Shopping Stroll Passing by
<b>Tuesdays</b>	
<b>Stortorget</b>	<b>Passing by</b> Shopping Culture Stroll
<b>Østre Torg</b>	<b>Stroll</b> Shopping Café/ resto Passing by

Stortorget and Østre Torg are the two main squares in the city centre of Hamar. They are very different both functionally and architecturally. As people are passing by Stortorget, visiting the cinema (culture) or shop, the intent of visiting Østre Torg strolling, shopping or visiting the café. Consequently, both squares have offers that get the attention of the residents.

**Table 8.59:**  
 Social intent, Stortorget and Østre Torg

### 8.9.3 Social Factors (B)

SOCIAL ARENA	C SOCIAL FACTORS
<b>Saturdays</b>	
<b>Stortorget</b>	<b>Narrow/intimate</b> Car-free zone Street open
<b>Østre Torg</b>	<b>Narrow/intimate</b> Many people Street open Meeting people Nice buildings Quite/peace
<b>Tuesdays</b>	
<b>Stortorget</b>	<b>Narrow/intimate</b> Car-free zone Street open
<b>Østre Torg</b>	<b>Narrow/intimate</b> Quite/peace Public transp. Street open Seating

The most appreciated factor for both squares is “narrow/intimate”, although the factor “street open” also is registered. This might be regarded as self-contradictory, but “street open” refer to the street being visualized as open and clearly set out-having a publicly comprehensive plan.

The social intents are similar for Stortorget both Saturdays and Tuesdays. Respondents also appreciate the square as a car-free zone (or rather parts of it).

**Table 8.60:**  
 Social factors, Stortorget and Østre Torg



### 8.9.4 Social Comfort (C)

SOCIAL ARENA	C SOCIAL COMFORT
<b>Saturday</b>	
Stortorget	Well-being
Østre Torg	Well-being
<b>Tuesday</b>	
Stortorget	Well-being
Østre Torg	Well-being

Both Stortorget and Østre Torg have a score of Well-being on Saturdays and Tuesdays. No specification is registered.

**Table 8.61:**  
*Social comfort, Stortorget and Østre Torg*

### 8.9.5 Social Duration (E)

SOCIAL ARENA	E SOCIAL PERFORM.
<b>Saturdays</b>	
Stortorget	<b>0-10 min</b> 11-30 min 31-60 min
Østre Torg	<b>1-3 hours</b> 31-60 min 0-10 min
<b>Tuesdays</b>	
Stortorget	<b>0-10 min</b> 11-30 min 31-60 min
Østre Torg	<b>0-10 min</b> <b>11-30 min</b> 1-3 hours 31-60 min

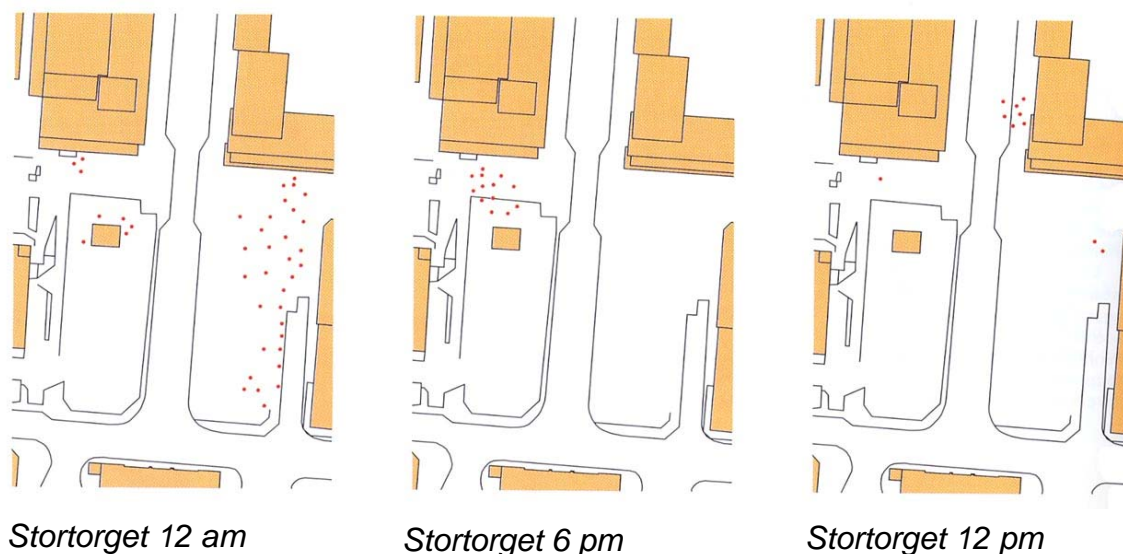
The duration of stay is generally 0-10 min except for Saturday at Østre Torg where most people are staying 1-3 hours. No one tends stay in Stortorget more than 1 hour.

**Table 8.62:**  
*Social duration, Stortorget and Østre Torg*

## 8.9.6 Social Performance Ratio (G)

### Social Street Activity

The social street activity in Stortorget and Østre Torg is reasonable high. Especially the activity in Stortorget on Tuesdays is noticeable. The mean figures for social street activity in Table 9.56 above are derived from three registrations during the period 10 am to 5 pm providing an approximate factual ratio. However, the activity varies over the day as indicated by Figs 9.47 to 9.49 below. Fig 9.49 also indicates that Stortorget definitely is not an arena for evening gatherings although being close to Torggata. It also indicates, as was the case for Torggata, that social street activity is linked to function, at 12 am to trading in vegetables, at 6 pm to the local cinema and at 12 pm to a pub (top right).

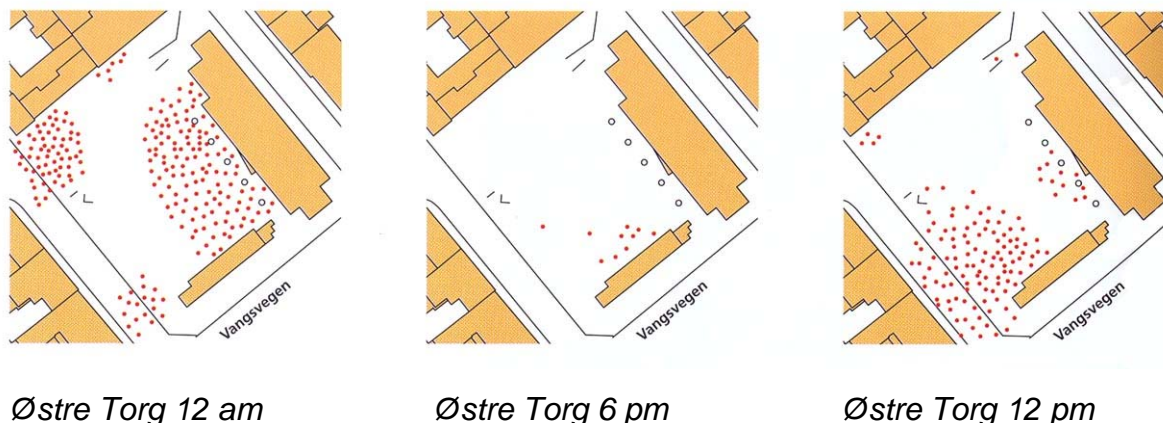


**Figures 8.43 - 8.45 (left to right):**

*Situational description of the whereabouts of street users in Stortorget on Saturday 14<sup>th</sup> September 1996 at 12 am, 6 pm and 12 pm.*

The characteristics of what generates social street activity and when such activity is performed is also apparent in Østre Torg, although more evident as the activity (as well as the pedestrian intensity) is much higher here at peak hours: 12 am and 12 pm as Figs 9.50 to 9.52 below so clearly indicates.

**The street as an extended road notion**  
 Part D: Analysis and Conclusion (Chapters 8 & 9)



**Figures 8.46 – 8.48 (left to right):**  
 Situational description of the whereabouts of street users in Østre Torg on Saturday 14<sup>th</sup> September 1996 at 12 am, 6 pm and 12 pm.

## Pedestrian Intensity

Table 8.58 with mean values for pedestrian intensity indicates that Østre Torg generally has 102% more pedestrians than Stortorget on Saturdays and 66% more on Tuesdays. However, the peak registration at 12 am on Saturday shows that there is approximately three times as many people in Østre Torg compared to Stortorget. The peak registration on Tuesdays is more similar: 40% more people in Østre Torg.

The registration of Pedestrian Intensity has been done at the following 8 hours:  
 10 am, 12 am, 2 pm, 4 pm, 6 pm, 8 pm, 10 pm and 12 pm.

## Summary of Data

The following data derive s from chapter 8.9.1:

SOCIAL ARENA	D SOCIAL ACTIVITY Plot mean (peak)	F PEDEST. INTENSITY Pr hour mean (peak)	G SOCIAL PERFORMANCE RATIO D/F
<b>Saturdays</b>			
Stortorget	24 s	297 s (775/ 2pm) 263 w (575/ 12am)	8,1 % s
Østre Torg	51 s	571 s (2050/ 12am) 203 w (650/ 12am)	8,9 % s
<b>Tuesdays</b>			
Stortorget	17 s	169 s (300/ 2pm) 244 w (450/ 4pm)	10,1 % s
Østre Torg	21 s	213 s (475/ 12am) 116 w (300/ 12am)	9,9 % s

**Table 8.63:**

*Social activity versus pedestrian intensity; **S** indicating and **w** indicating winter.*

Converted into points the summer data are as follows:

SOCIAL ARENA	D SOCIAL ACTIVITY Plots mean*	F PEDEST. INTENSITY Registration mean** (peak)	G SOCIAL PERFORMANCE RATIO D/F
<b>Saturdays</b>			
Stortorget	1	1	2
Østre Torg	2	2	2
<b>Tuesdays</b>			
Stortorget	1	1	2
Østre Torg	1	1	2

**Table 8.64:**

*Social Performance Ratio for Stortorget and Østre Torg as the ratio between Social Street Activity and Pedestrian Intensity. Summer registrations only.*

## Summary

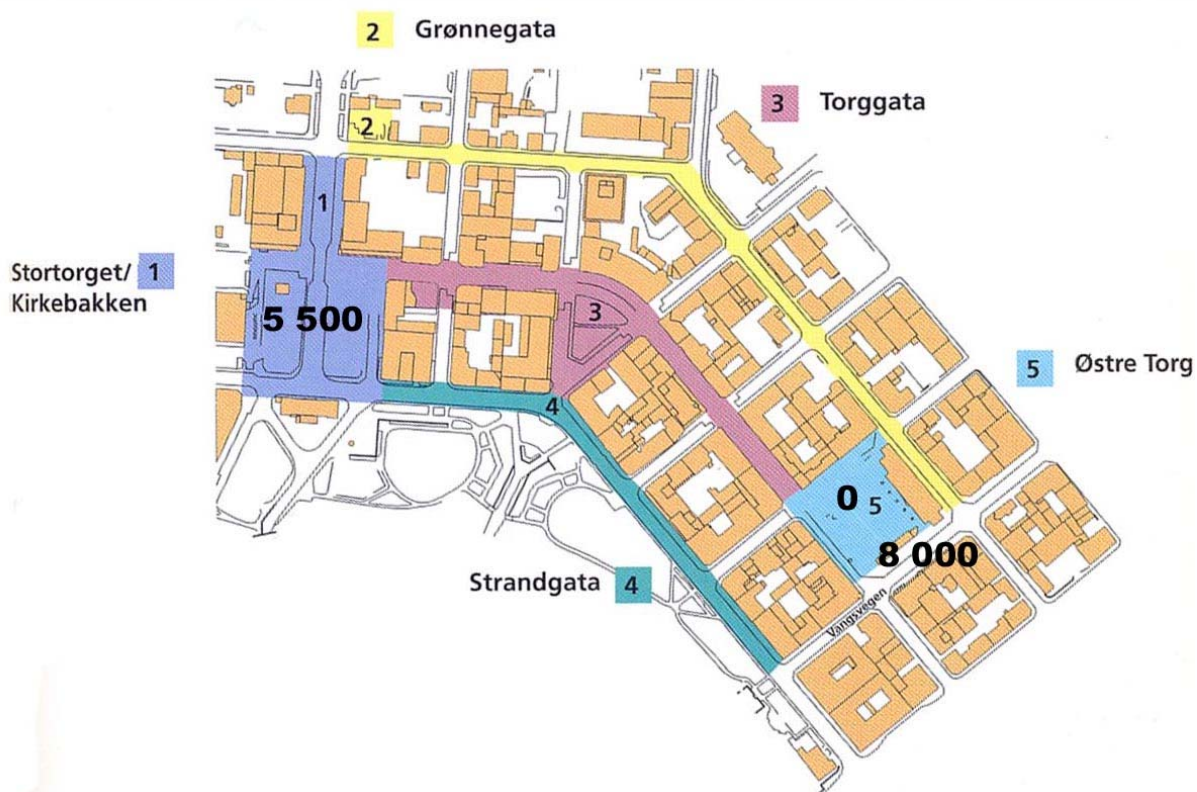
Table 8.64 indicates that the pedestrian intensity of both squares is low, except for medium intensity in Østre Torg during Saturdays. Social street activity follows the exact same pattern, giving both arenas a medium social performance ratio.

The ratio between social street activity and pedestrian intensity, using mean values, indicates a similar tendency for Stortorget and Østre Torg on Saturdays although Stortorget has 35% pedestrian intensity compared to Østre Torg on Saturdays. On Tuesdays the ratio is higher in Stortorget with 10.1% compared to Østre Torg with 9.9% despite having 60% less pedestrian intensity. This strongly indicates that the registered people tend to stay behind in Stortorget while the social activity in Østre Torg is more dependent upon certain times of day and upon functional establishments. Consequently, the illustrations in Figs 9.50 to 9.52 represent an interesting situational description but are not representative of a general trend.

Factual registrations and subjective observations and analysis indicate that both Stortorget and Østre Torg have a low pedestrian intensity and social street activity. However, both arenas might to a certain degree be regarded as social arenas as the social performance ratio is medium both places.

## 8.9.7 Social Street Activity versus Motorized Traffic Volume

### Motorized Traffic Volume/ *Stortorget*

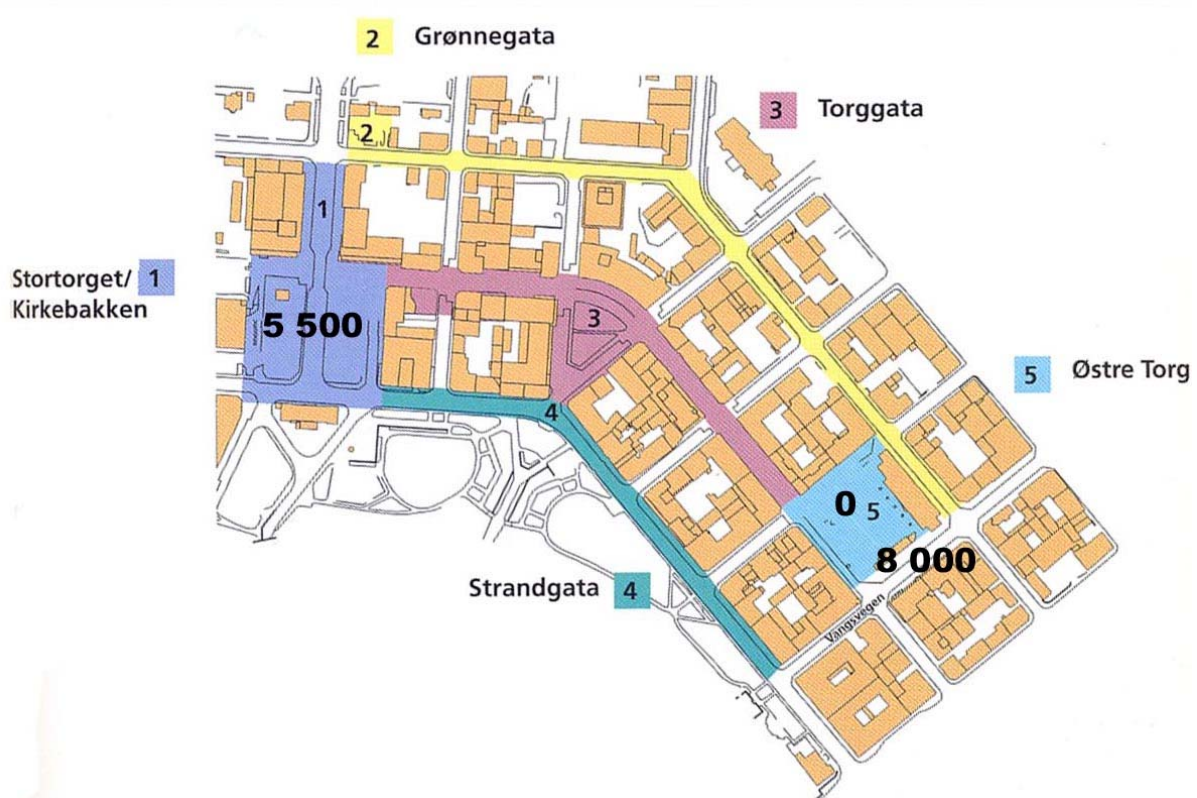


**Figure 8.49:**  
*Registration area of Hamar showing motorized traffic volume in Stortorget and Østre Torg. Map is not in scale.*

Stortorget has motorized traffic of 5 500 AADT across the square via Kirkebakken.(indicated by 1 in Fig 9.53 above). The square has a parking area on the north part. Consequently, the square is marked by motorized traffic although to a modest level.



## Motorized Traffic Volume/ Østre Torg



**Figure 8.50:**  
*Registration area of Hamar showing motorized traffic volume in Stortorget and Østre Torg. Map is not in scale.*

Østre Torg is, as Torggata, a car-free zone. However, Vangsveien, a National Road, is located adjacent to the square, having a motorized traffic volume at 8 000 AADT. This traffic is naturally noticeable but does not seem to affect the social performance within the square.

**The street as an extended road notion**  
Part D: Analysis and Conclusion (Chapters 8 & 9)

## Summary of Data

SOCIAL ARENA	B SOCIAL FACTORS	C SOCIAL COMFORT	D SOCIAL ACTIVITY Plot mean (peak)	F PEDEST. INTENSITY Pr hour mean (peak)	H* MOTORIZED TRAFFIC VOLUME AADT
<b>Saturday</b>					
Stortorget	Car-free zone	<b>Well-being</b>	<b>24 s</b>	<b>297 s</b> (775/ 2pm) <b>263 w</b> (575/ 12am)	<b>5 500</b>
Østre Torg	Many people Meeting people Quiet/peace	<b>Well-being</b>	<b>51 s</b>	<b>571 s</b> (2050/ 12am) <b>203 w</b> (650/ 12am)	<b>0</b>
<b>Tuesday</b>					
Stortorget	Car-free zone	<b>Well-being</b>	<b>17 s</b>	<b>169 s</b> (300/ 2pm) <b>244 w</b> (450/ 4pm)	<b>5 500</b>
Østre Torg	Quiet/peace Public transp.	<b>Well-being</b>	<b>21 s</b>	<b>213 s</b> (475/ 12am) <b>116 w</b> (300/ 12am)	<b>0</b>

**Table 8.65:**

### **SUMMARY OF DATA**

for Stortogvet and Østre Torg, Saturdays and Tuesdays.

Columns **D** and **F** with summer (s) and winter (w) registrations. Order of categories according to score with the highest score indicated in bold. S= summer, W= winter.

\* AADT in column **H** does not differentiate between weekdays.

Converted into points the summer data are as follows:

SOCIAL ARENA	D SOCIAL ACTIVITY Plot mean (peak)	F PEDEST. INTENSITY Per hour mean (peak)	G SOCIAL PERFORMANCE RATIO D/F	H MOTORIZED TRAFFIC VOLUME AADT
<b>Saturday</b>				
Stortorget	<b>1</b>	<b>1</b>	<b>2</b>	<b>2</b>
Østre Torg	<b>2</b>	<b>2</b>	<b>2</b>	<b>0</b>
<b>Tuesday</b>				
Stortorget	<b>1</b>	<b>1</b>	<b>2</b>	<b>2</b>
Østre Torg	<b>1</b>	<b>1</b>	<b>2</b>	<b>0</b>

**Table 8.66:**

### **SUMMARY OF DATA CONVERTED INTO POINTS**

Relationship between Social Activity, Pedestrian Intensity, Social Performance Ratio and **Motorized Traffic Volume** for Stortorget and Østre Torg.

Summer registrations only.

## Summary

The social factor appreciated with relevance to motorized traffic in Stortorget is “Car-Free Zone”. The actual square is divided into two zones, one reserved for parking and one for marked activities (sale of flowers and vegetables). These zones are physically segregated from the street (Kirkebakken) and the motorized traffic here is not high. Parked cars (including the actual parking process) represent a more dominant impact in the square than the traffic in Kirkebakken.

Østre Torg is a car-free zone except the adjacent street Vangsvegen with 8 000 AADT. This traffic does not seem to interfere with the social performance in the square.

Factual registrations and subjective observations and appraisals indicate that motorized traffic volume has an insignificant contributing factor to restrict social street activity in Stortorget, but have no effect in Østre Torg. “Safety Traffic” as a social comfort factor has not been registered.

## 8.9.8 Social Street Activity versus Architectural Attractiveness

### Architectural attractiveness / Stortorget

According to the Hamar report, Stortorget is a waste, open and infinite urban space. The surrounding buildings and the widely scattered tree vegetation do not contribute to improve the visual impression of a “waste-land” rather than a true urban space designed according to human proportions. Two significant architectural features are worth mentioning:



**Figures 8.51 & 8.52:**  
A: Hamar Domkirke.  
B: Part of “Basarhallene”.



**A.** Hamar Domkirke, the main church of Hamar bishopric built in 1866 and designed by Heinrich Ernst Schirmer. The church is not physically part of Stortorget but represents an important contributing factor visually and symbolically.

**B.** “Basarhallene” in Hamar, built in 1895 and designed by E. Soot. The building is physically separated from the square by Strandgata. It has an important axial location towards the church represented by Kirkebakken.



**The street as an extended road notion**  
Part D: Analysis and Conclusion (Chapters 8 & 9)

---



**Figure 8.54:**  
*Stortorget facing towards Hamar Domkriike; “Folkets Hus” with the local cinema to the left (designed by Finn Poppe in 1965)*



**Figure 8.55:**  
*Stortorget facing towards “Basarhallene” and Lake Mjøsa; bus parking facilities to the left and the car park to the right, consciously framed by uninspired New Jersey elements.*

***The street as an extended road notion***

Part D: Analysis and Conclusion (Chapters 8 & 9)

---

To put it simply, Stortorget is not an architectural attractive urban setting. The square is twasted, the adjacent buildings are not homogeneous neither in scale nor in architectural character and lack the ability to enclose the urban space, the vegetation is inconspicuous (although the trees will hopefully grow fast) and the street furniture is a disgrace dominated by cracked New Jersey elements. Stortorget is an ambitious urban space on the planning board located symmetrically around Kirkebakken representing the main axis being structurally close by the church and "Basarhallene". The strong urban intention of the square has never been fulfilled, although some buildings of the 1960s as "Folkets Hus" make an attempt to do so.



## Architectural Attractiveness / Østre Torg

According to the Hamar report, Østre Torg is an enclosed urban space, defined by the quadrature structure of the Hamar city centre and the surrounding buildings.



**Figures 8.56 & 8.57:**

*Top: Østre Torg, view towards Torggata and Lake Mjøsa in the far distance.*

*Bottom: Østre Torg, view towards Grønnegata.*



***The street as an extended road notion***

Part D: Analysis and Conclusion (Chapters 8 & 9)

---

Despite being an enclosed urban space, the variation in building heights and a great variety of architectural styles contributes to heterogeneous architecture. Østre Torg has no buildings of architectural significance, and the presence of various alien building elements, such as different types of kiosks contribute to an untidy visual impression. Østre Torg is not regarded by the public as a pleasant place to be.

**The street as an extended road notion**  
Part D: Analysis and Conclusion (Chapters 8 & 9)

**Summary of Data**

SOCIAL ARENA	B SOCIAL FACTORS	C SOCIAL COMFORT	D SOCIAL ACTIVITY Plot mean (peak)	F PEDEST. INTENSITY Pr hour mean (peak)	H* ARCHITECTURAL ATTRACTIVENESS
<b>Saturday</b>					
Stortorget	Narrow/intimate Street open	Well-being	24 s	297 s (775/ 2pm) 263 w (575/ 12am)	Narrow/intimate Street open
Østre Torg	Narrow/intimate Street open Nice buildings	Well-being	51 s	571 s (2050/ 12am) 203 w (650/ 12am)	Narrow/intimate Street open Nice buildings
<b>Tuesday</b>					
Stortorget	Narrow/intimate Street open	Well-being	17 s	169 s (300/ 2pm) 244 w (450/ 4pm)	Narrow/intimate Street open
Østre Torg	Narrow/intimate Street open Seating	Well-being	21 s	213 s (475/ 12am) 116 w (300/ 12am)	Narrow/intimate Street open Seating

**Table 8.67:**

**SUMMARY OF DATA**

for Stortorget and Østre Torg, Saturdays and Tuesdays.

Columns **D** and **F** with summer (s) and winter (w) registrations. Order of categories according to score with the highest score indicated in bold. S= summer, W= winter.

Converted into points the summer data are as follows:

SOCIAL ARENA	D SOCIAL ACTIVITY Plot mean (peak)	F PEDEST. INTENSITY Per hour mean (peak)	G SOCIAL PERFORMANCE RATIO D/F	I ARCHITECTURAL ATTRACTIVENESS
<b>Saturday</b>				
Stortorget	1	1	2	2
Østre Torg	2	2	2	2
<b>Tuesday</b>				
Stortorget	1	1	2	2
Østre Torg	1	1	2	2

**Table 8.68:**

**SUMMARY OF DATA CONVERTED INTO POINTS**

Relationship between Social Activity, Pedestrian Intensity, Social Performance Ratio and **Architectural Attractiveness** for Stortorget and Østre Torg. Summer registrations only.

## **Summary**

As described, there are few building elements in Stortorget and Østre Torg that contribute to the architectural attractiveness of the squares. However, registrations prove that the respondents regard both places as narrow and intimate. Østre Torg is even appreciated by its nice buildings. Thus, there are reasons to believe that the built environment has a contributing factor to generate social street activity although the architectural quality is not as attractive as one might wish.

Factual registrations and subjective observations and appraisals indicate that architectural attractiveness is a certain contributing factor to generate social street activity in both Stortorget and Østre Torg.

## 8.10 Hamar: Torggata/ Strandgata

### 8.10.1 Summary of Data

(derived from Tables 7.112 – 7.125, Section 7.3.7)

For Torggata/ Strandgata in Hamar the following data is registered:

SOCIAL ARENA	A SOCIAL INTENT	B SOCIAL FACTORS	C SOCIAL COMFORT	D SOCIAL ACTIVITY Plot mean	E SOCIAL PERFORM.	F PEDEST. INTENSITY Pr hour mean (peak)
<b>Saturday</b>						
<b>Torggata</b>	<b>Leisure</b> Shopping Café/outdo or Stroll	<b>Nice buildings</b> Narrow/intimate Quiet/peace Public transp. Street open Seating	<b>Well-being</b>	<b>62 s</b>	<b>1-3 hours</b> 31-60 min 11-30 min 0-10 min 4-6 hours > 6 hours	<b>1100 s</b> (2250/ 12am) <b>559 w</b> (1950/ 12am)
<b>Strandgata</b>	<b>Stroll</b> Shopping Work Public transp.	<b>Narrow/intimate</b> Many people	<b>Well-being</b> Safety traffic	<b>6 s</b>	<b>0-10 min</b> 11-30 min 31-60 min 1-3 hours	<b>181 s</b> (600/ 12am) <b>100 w</b> (500/ 12am)
<b>Tuesday</b>						
<b>Torggata</b>	<b>Shopping</b> <b>Café/outdo</b> or Work Leisure Stroll	<b>Quiet/peace</b> Narrow/intimate Nice buildings Street open	<b>Well-being</b>	<b>21 s</b>	<b>31-60 min</b> 1-3 hours 0-10 min 11-30 min 4-6 hours > 6 hours	<b>381 s</b> (800/ 12am+2pm) <b>284 w</b> (600/ 12 am)
<b>Strandgata</b>	<b>Shopping</b> Stroll	<b>Many people</b> <b>Quite/peace</b> Narrow/intimate	<b>Well-being</b> Safety traffic Safety crime	<b>5 s</b>	<b>0-10 min</b> 11-30 min 31-60 min > 6 hours	<b>122 s</b> (300/ 12am) <b>86 w</b> (250/ 2pm)

**Table 8.69:**

**SUMMARY OF DATA:**

for Torggata and Strandgata, Saturdays and Tuesdays. Mean values for summer season. Order of categories according to score with the highest score in bold.

\*Registration= Mean value from three registrations.

### 8.10.2 Social Intent (A)

SOCIAL ARENA	A SOCIAL INTENT
<b>Saturdays</b>	
Torggata	<b>Leisure</b> Shopping Café/outdoor Stroll
Strandgata	<b>Stroll</b> Shopping Work Public transp.
<b>Tuesdays</b>	
Torggata	<b>Shopping</b> Café/outdoor Work Leisure Stroll
Strandgata	<b>Shopping</b> Stroll

**Table 8.70:**  
*Social intent, Torggata and Strandgata*

Although Torggata and Strandgata are very diverse both architecturally and functionally, Torggata being a pedestrian route between the two main squares of the city while Strandgata is the street with the most motorized traffic in Hamar and being located at the outskirts of the inner core of the city centre, the social intent of the respondents are surprisingly similar focusing on “Shopping” and “Strolling”. However, while Strandgata seems to be a leisurely transport route with some shopping facilities, Torggata, is a leisurely arena with a wide range of shops and cafes/ restaurants that invite people to stay behind.

### 8.10.3 Social Factors (B)

SOCIAL ARENA	B SOCIAL FACTORS
<b>Saturday</b>	
Torggata	<b>Nice buildings</b> Narrow/intimate Quiet/peace Public transp. Street open Seating
Strandgata	<b>Narrow/intimate</b> Many people
<b>Tuesday</b>	
Torggata	<b>Quiet/peace</b> Narrow/intimate Nice buildings Street open
Strandgata	<b>Many people</b> <b>Quiet/peace</b> Narrow/intimate

**Table 8.71:**  
*Social factors, Torggata and Strandgata*

Not surprisingly, Torggata has a range of social factors registered especially on Saturdays. Torggata is narrow/ intimate and being blessed with many people present (although not always). On Saturday it is appreciated for nice buildings and being a quiet and peaceful place. Strandgata is also characterized as a narrow/ intimate street with many people and furthermore as a quiet and peaceful place despite heavy motorized traffic.



### 8.10.4 Social Comfort (C)

SOCIAL ARENA	D SOCIAL COMFORT
<b>Saturdays</b>	
Torggata	Well-being
Strandgata	Well-being Safety traffic
<b>Tuesdays</b>	
Torggata	Well-being
Strandgata	Well-being Safety traffic Safety crime

People feel well in both streets. Strandgata is especially characterized by safe towards traffic presumably stating that the presence of motorized traffic has little effect on the sense of well-being.

**Table 8.72:**  
*Social comfort, Torggata and Strandgata*

### 8.10.5 Social Duration (D)

SOCIAL ARENA	F SOCIAL PERFORM.
<b>Saturdays</b>	
Torggata	<b>1-3 hours</b> 31-60 min 11-30 min 0-10 min 4-6 hours > 6 hours
Strandgata	<b>0-10 min</b> 11-30 min 31-60 min 1-3 hours
<b>Tuesdays</b>	
Torggata	<b>31-60 min</b> 1-3 hours 0-10 min 11-30 min 4-6 hours > 6 hours
Strandgata	<b>0-10 min</b> 11-30 min 31-60 min > 6 hours

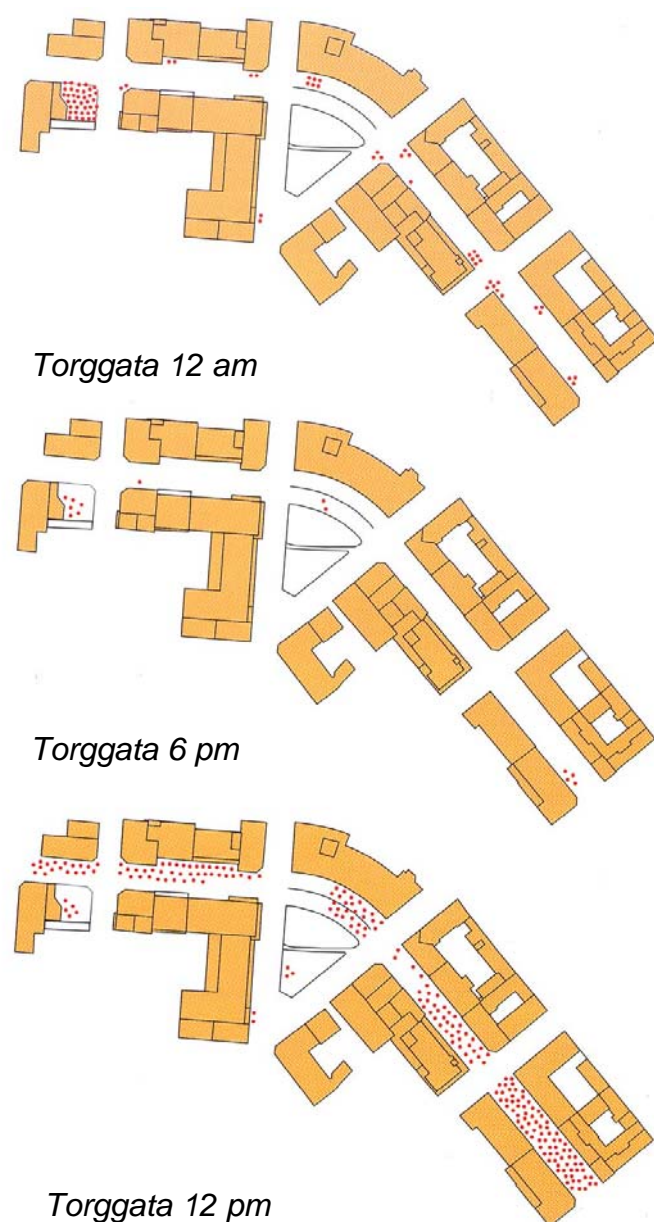
The social duration is registered in nearly all categories. The most registered duration in Torggata on Saturdays is 1-3 hours, confirming the status of Torggata as a social arena. Strandgata does not have this status having 0-10 min as the most typical duration of stay.

**Table 8.73:**  
*Social duration, Torggata and Strandgata*

## 8.10.6 Social Street Performance Ratio (G)

### Social Street Activity

Social street activity is purely registered in the summer season. Not surprisingly, Torggata has the highest registrations of respondents performing social street activity, although the tendency to stroll in Torggata seems higher on Saturdays than Tuesday where the ratio of social street activity pedestrian intensity actually is higher.



However, Torggata has a relatively modest social street activity at noon-time on Saturdays, being virtually derelict after shop closure at 3 pm and with a swarming urban life during late evenings. At 12 pm people are mostly shopping (including window-shopping), stopping for a chat or visiting the café “Stallgården” as the top illustration of Fig 9.62 indicates. The same figure clearly indicates the importance of Torggata as a social arena for evening gatherings mostly presented by youth.

The plotting of Social Street Activities in Torggata and Strandgata has basically followed the registration of Pedestrian Intensity during the following 8 hours:

10 am, 12 am, 2 pm, 4 pm, 6 pm, 8 pm, 10 pm and 12 pm.

**Figures 8.58 – 8.60 (from the top):**  
 Situational description of the whereabouts of street users in Torggata on Saturday 14<sup>th</sup> September 1996 at 12 am, 6 pm and 12 pm.

## **Pedestrian Intensity**

As table 9.65 illustrates, Torggata has a peak pedestrian intensity at 12 am with 2550 people, followed by an intensity of as many as 2400 persons at midnight. The winter registration of 1950 people at noon Saturday indicates that Torggata is a popular arena regardless of time of year although very few seem to stop for a break during winter. The figures for Tuesdays are more modest: 800 people pr hour at peak time (12 am) in summer and 550 people in winter.

Strandgata has a moderate pedestrian intensity both Saturdays and Tuesdays-summer and winter, 600 pedestrians on summer Saturdays as the highest registration.

The registration of Pedestrian Intensity has been done at the following 8 hours: 10 am, 12 am, 2 pm, 4 pm, 6 pm, 8 pm, 10 pm and 12 pm.

## Summary of Data

The following data derive s from chapter 8.10.1:

SOCIAL ARENA	D SOCIAL ACTIVITY Plot mean (peak)	F PEDEST. INTENSITY Pr hour mean (peak)	G SOCIAL PERFORMANCE RATIO D/F
<b>Saturday</b>			
Torggata	62 s	1100 s (2250/ 12am) 559 w (1950/ 12am)	5,6 % s
Strandgata	6 s	181 s (600/ 12am) 100 w (500/ 12am)	3,3 % s
<b>Tuesday</b>			
Torggata	21 s	381 s (800/ 12am+2pm) 284 w (600/ 12 am)	5,5 % s
Strandgata	5 s	122 s (300/ 12am) 86 w (250/ 2pm)	4,1 % s

**Table 8.74:**  
*Social activity versus pedestrian intensity; S indicating and w indicating winter.*

Converted into points the summer data are as follows:

SOCIAL ARENA	D SOCIAL ACTIVITY Plot mean* (peak)	F PEDEST. INTENSITY Per hour mean** (peak)	G SOCIAL PERFORMANCE RATIO D/F
<b>Saturday</b>			
Torggata	2	3	2
Strandgata	1	1	1
<b>Tuesday</b>			
Torggata	1	2	2
Strandgata	1	1	1

**Table 8.75:**  
*Architectural Attractiveness for Torggata and Strandgata as the ratio between Social Street Activity and Pedestrian Intensity. Summer registrations only.*

## Summary

Table 8.75 indicates that Strandgata has low pedestrian intensity, low social street activity and low social performance ratio Saturdays and Tuesdays. Torggata has, as may be expected, a high pedestrian intensity on Saturdays but relatively few people are actually settling down giving the street a medium social street activity and a medium social performance ratio. However, the ratio for Torggata and Strandgata is approximately similar, a result that is surprising bearing in mind the status for Torggata as the social arena for the city centre of Hamar. This seems to be, as previously stressed, a typical pattern for pedestrian streets without any specific facilities for social activities.

Factual registrations and subjective observations and analysis indicate that Torggata has a high pedestrian intensity and a medium social street activity on Saturdays. Strandgata has low scores in both categories. Both arenas might not be regarded as social arenas as the social performance ratio is low in both places. This might be a surprising result for Torggata, although it follows a traditional pattern for pedestrian streets.

## 8.10.7 Social Street Activity versus Motorized Traffic Volume

### Motorized Traffic Volume/ *Torggata*



**Figure 8.61:**  
*The registered part of Torggata in Hamar located between Stortorget and Østre Torg (indicated with green dots).  
Map is not in scale.*

The registered part of Torggata (between Stortorget and Østre Torg) is a pedestrian street with no general car traffic except for transport of goods.



## Motorized Traffic Volume/ *Strandgata*



**Figure 8.62:**

*The registered part of Strandgata located between Stortorget and Vangsvegen, indicated with green dots.*

*Map is not in scale.*

The registered part of Strandgata (from Stortorget to Vangsvegen) is the street in Hamar with the highest motorized traffic volume, approximately 14 000 AADT, with the highest registration between Seminargata and Sverres gate at 14 200.

**The street as an extended road notion**  
 Part D: Analysis and Conclusion (Chapters 8 & 9)

## Summary of Data

SOCIAL ARENA	B SOCIAL FACTORS	C SOCIAL COMFORT	D SOCIAL ACTIVITY Per hour mean	F PEDEST. INTENSITY Per hour mean (peak)	H** CAR TRAFFIC VOLUME AADT
<b>Saturdays</b>					
Torggata	Quite/peace	<b>Well-being</b>	<b>62 s</b>	<b>1100 s</b> (2250/ 12am) <b>559 w</b> (1950/ 12am)	<b>0</b>
+Strandgata	Many people	<b>Well-being</b> Safety traffic	<b>6 s</b>	<b>181 s</b> (600/ 12am) <b>100 w</b> (500/ 12am)	<b>14 000</b>
<b>Tuesdays</b>					
Torggata	Quite/peace	<b>Well-being</b>	<b>21 s</b>	<b>381 s</b> (800/ 12am+2pm) <b>284 w</b> (600/ 12 am)	<b>0</b>
Strandgata	Many people <b>Quite/peace</b>	<b>Well-being</b> Safety traffic Safety crime	<b>5 s</b>	<b>122 s</b> (300/ 12am) <b>86 w</b> (250/ 2pm)	<b>14 000</b>

**Table 8.76:**

### **SUMMARY OF DATA**

for Torggata and Strandgata, Saturdays and Tuesdays.

Column **F** with summer (s) and winter (w) registrations. Order of categories according to score with the highest score indicated in bold. S= summer, W= winter.

\* AADT in column **H** does not differentiate between week-days.

Converted into points the summer data are as follows:

SOCIAL ARENA	D SOCIAL ACTIVITY Plot mean (peak)	F PEDEST. INTENSITY Per hour mean (peak)	G SOCIAL PERFORMANCE RATIO D/F	H MOTORIZED TRAFFIC VOLUME AADT
<b>Saturday</b>				
Torggata	<b>2</b>	<b>3</b>	<b>2</b>	<b>0</b>
Strandgata	<b>1</b>	<b>1</b>	<b>1</b>	<b>2</b>
<b>Tuesday</b>				
Torggata	<b>1</b>	<b>2</b>	<b>2</b>	<b>0</b>
Strandgata	<b>1</b>	<b>1</b>	<b>1</b>	<b>0</b>

**Table 8.77:**

### **SUMMARY OF DATA CONVERTED INTO POINTS**

Relationship between Social Activity, Pedestrian Intensity, Social Performance Ratio and **Motorized Traffic Volume** for Torggata and Strandgata.

Summer registrations only.

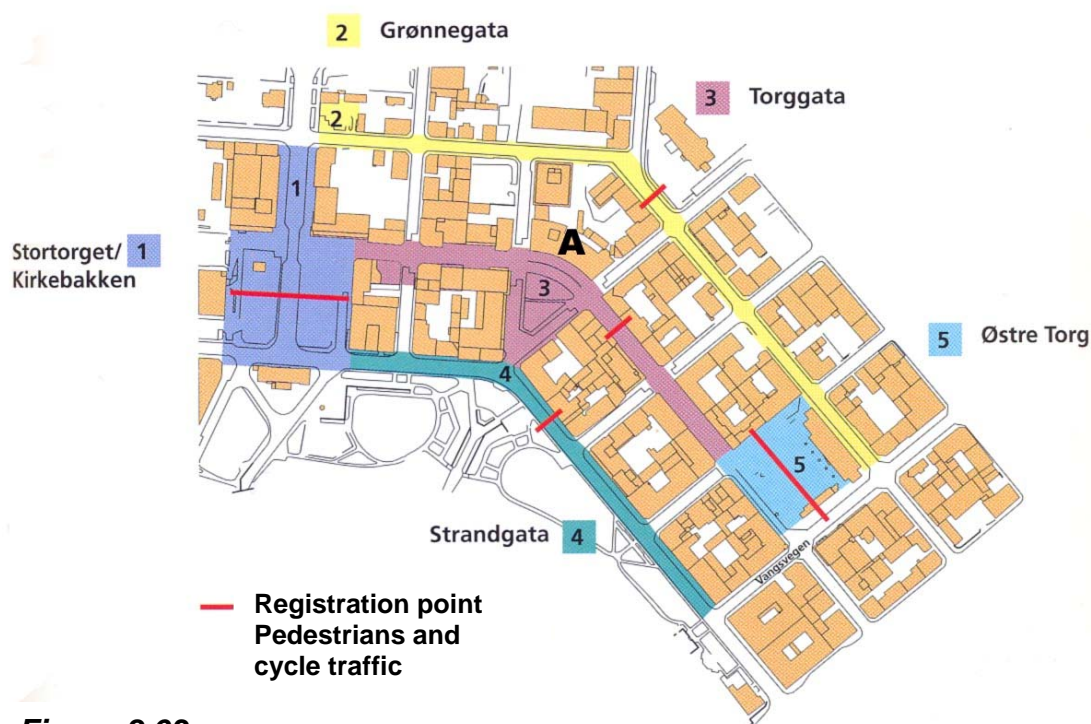
## **Summary**

Torggata is a pedestrian street and is purely accessible for motorized traffic during transport of goods at certain hours. Strandgata, on the other hand, has heavy motorized traffic. Despite a traffic intensity of 14 000 AADT, the respondents feel at ease in Strandgata. People have stated “Strollong” as a major intent for visiting the street (the main reason on Saturdays) and even regard the street as safe towards traffic despite narrow pavements and no buffers between pedestrian and motorized traffic. Thus, Strandgata is a strolling arena and consequently characterized as a social arena.

Factual registrations and subjective observations and appraisals indicate that a high motorized traffic volume seem to be a modest contributing factor to restrict social street activity in Strandgata, but the absence of car traffic is appreciated in Torggata.

## 8.10.8 Social Street Activity versus Architectural Attractiveness

### Architectural Attractiveness / *Torggata*



**Figure 8.63:**  
*Torggata indicated by pink (area 3), the location of “Triangelgården” marked with letter A.*

The registered part of Torggata (between Stortorget and Østre Torg, marked 1 and 5 in Fig 9.67) has few buildings of extraordinary architectural quality. However, “Triangelgården” (marked A in Fig 9.67) located in the break-point of Torggata and the central urban structure of Hamar, makes a conspicuous architectural impression. The building was erected in 1962 for a local business man on a site reserved for the proposed city hall, not without a local uproar. It was designed by the local architect Finn Poppe. Today it houses a part of the city council administration. The architectural significance of the building is how it perfectly emphasizes the break-point of the street, so characteristic of the city core of Hamar.



**The street as an extended road notion**  
Part D: Analysis and Conclusion (Chapters 8 & 9)



**Figure 8.64:**  
*The intimacy of Torggata and “Triangelgården” in the front marking the break-point of the street. The picture is taken from Stortorget towards south.*

Torggata was rehabilitated during early 1990s to a high aesthetic level. The street still appears intimate and pleasant. The street floor blends well with the adjacent buildings and the street furniture, including vegetation, is well considered with some sad exceptions. This is the arena for strollers, but there are many cafés that invite you to stop (Fig 8.64).



**Figure 8.65:**  
*Torggata with the popular “Stallgården Restaurant”.*

## **Architectural Attractiveness / Strandgata**

Strandgata is a National Road (Rv 222) having the characteristics of such road when it comes to technical implementation such as signs and traffic equipment (fig. 8.66).



**Figure 8.66:**  
*Strandgata has the character of a main road with traffic road equipment.*

The attractiveness of Strandgata is not necessary linked to the street floor and the adjacent buildings nor the street furniture, but foremost to Strandgateparken that constitute the west façade of the street (Fig 8.66). The park represents a tremendous asset to the surroundings giving it a green appearance during summer. There are no mentionable architectural features in Strandgata although the most buildings contribute to a homogeneous and reasonable street façade.



**The street as an extended road notion**  
Part D: Analysis and Conclusion (Chapters 8 & 9)

## Summary of Data

SOCIAL ARENA	B SOCIAL FACTORS	C SOCIAL COMFORT	D SOCIAL ACTIVITY Plot mean	E PEDEST. INTENSITY Pr hour mean (peak)	G ARCHITECTURAL ATTRACTIVENESS
<b>Saturdays</b>					
<b>Torggata</b>	<b>Nice buildings</b> Narrow/intimate Quiet/peace Public transp. Street open Seating	<b>Well-being</b>	<b>62 s</b>	<b>1100 s</b> (2250/ 12am) <b>559 w</b> (1950/ 12am)	<b>Nice buildings</b> Narrow/intimate Street open Seating
<b>Strandgata</b>	<b>Narrow/intimate</b> Many people	<b>Well-being</b> Safety traffic	<b>6 s</b>	<b>181 s</b> (600/ 12am) <b>100 w</b> (500/ 12am)	<b>Narrow/intimate</b>
<b>Tuesdays</b>					
<b>Torggata</b>	<b>Quiet/peace</b> Narrow/intimate Nice buildings Street open	<b>Well-being</b>	<b>21 s</b>	<b>381 s</b> (800/ 12am+2pm) <b>284 w</b> (600/ 12 am)	Narrow/intimate Nice buildings Street open
<b>Strandgata</b>	<b>Many people</b> <b>Quiet/peace</b> Narrow/intimate	<b>Well-being</b> Safety traffic Safety crime	<b>5 s</b>	<b>122 s</b> (300/ 12am) <b>86 w</b> (250/ 2pm)	Narrow/intimate

**Table 8.78:**  
**Summary of data** for Torggata and Strandgata, Saturdays and Tuesdays.  
Mean values for summer season. Order of categories according to score with the highest score in bold.

Converted into points the summer data are as follows:

SOCIAL ARENA	D SOCIAL ACTIVITY Plot mean (peak)	F PEDEST. INTENSITY Per hour mean (peak)	G SOCIAL PERFORMANCE RATIO D/F	I ARCHITECTURAL ATTRACTIVENESS
<b>Saturday</b>				
<b>Torggata</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>3</b>
<b>Strandgata</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>2</b>
<b>Tuesday</b>				
<b>Torggata</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>3</b>
<b>Strandgata</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>2</b>

**Table 8.79:**  
**SUMMARY OF DATA CONVERTED INTO POINTS**  
Relationship between Social Activity, Pedestrian Intensity, Social Performance Ratio and **Architectural Attractiveness** for Torggata and Strandgata.  
Summer registrations only.

## **Summary**

As previously described, Torggata is the ultimate social arena of Hamar being a pedestrian street and having a tidy and pleasant visual impression due to a successful rehabilitation. In the registration, people are appreciating its nice buildings, its intimacy and the quiet and peaceful atmosphere. Its social success is strongly linked to certain times of the day (12 am and 12 pm) and to specific locations (a mid-day phenomenon) meaning that the social performance is related to functions and events rather than architectural attractiveness. It is, however, important to bear in mind that without the attractive environment such functions would hardly be established and the special event would hardly have taken place.

Strandgata is a social arena for strolling but hardly any respondents take a break. People in Strandgata appreciate its intimacy, probably contributed by vegetation in the park making the street pleasant and suitable for strolling.

Factual registrations and subjective observations and appraisals indicate that architectural attractiveness is a certain contributing factor to generate social street activity in both Torggata and Strandgata.
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***The street as an extended road notion***

Part D: Analysis and Conclusion (Chapters 8 & 9)

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# Chapter 9

## CONCLUSIONS

### 9.1 Preface

Chapter 9 provides an analysis of the 14 selected arenas by assessing the relationship between:

- Social Streets Activity (D),
- Pedestrian Intensity (F),
- Social Performance Ratio (G) and
- Motorized Traffic Volume,
- Architectural Attractiveness, using the following table:

	D	F	G	H	I
SOCIAL ARENA	SOCIAL STREET ACTIVITY	PEDESTR. INTENSITY	SOCIAL PERFORM. RATIO	MOTORIZED TRAFFIC VOLUME	ARCHITECTURAL ATTRACTIVENESS

**Table 9.1:**  
*Parameters being analysed.*

To be able to obtain a feasible comparison and parametric relationship of the parameters in Table 9.1, they were differentiated into the following scores:

**D: Social Street Activity** is differentiated into three score categories:

- Low activity:**                      **1: 0 – 30 people**  
**Medium activity:**                **2: 0 – 100 people**  
**High activity:**                    **3: > 100 people**

**F: Pedestrian Intensity** is differentiated into three score categories:

- Low intensity:**                    **1: 0 – 300 people**  
**Medium intensity:**               **2: 300 – 1 000 people**  
**High intensity:**                  **3: > 1 000 people**

**The street as an extended road notion**  
Part D: Analysis and Conclusion (Chapters 8 & 9)

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**G: Social Performance Ratio** is differentiated into three score categories:

<b>Low ratio:</b>	<b>1: 0 – 5%</b>
<b>Medium ratio:</b>	<b>2: 5 – 15%</b>
<b>High ratio:</b>	<b>3: &gt; 15%</b>

**H: Motorized Traffic Volume** is differentiated into three score categories:

<b>Zero volume:</b>	<b>0: AADT</b>
<b>Low volume:</b>	<b>1: 1 – 5 000 AADT</b>
<b>Medium volume:</b>	<b>2: 5 000 – 8 000 AADT</b>
<b>High volume:</b>	<b>3: 8 000 – 20 000 AADT</b>
<b>Very high volume:</b>	<b>3+: &gt; 20 000 AADT</b>

**I: Architectural attractiveness** is differentiated into three score categories:

<b>Low attractiveness:</b>	<b>1</b>
<b>Medium attractiveness:</b>	<b>2</b>
<b>High attractiveness:</b>	<b>3</b>

As previously mentioned 14 arenas have been the objects for analysis in chapter 8. In the conclusion (chapter 9) further 12 arenas are included as cases to confirm or refute the presented hypotheses:

- ***A motorized traffic volume does not restrict social street activity.***
- ***Architectural attractiveness contributes insignificantly to social street activity.***

**The street as an extended road notion**  
Part D: Analysis and Conclusion (Chapters 8 & 9)

The scores registered in the 26 arenas are as follow:

SOCIAL ARENA  - Arenas in bold is selected for analysis - Arenas in normal is not selected for analysis	I ARCHITEC- TURAL ATTRAC- TIVENESS 1: Low 2: Medium 3: High	H MOTORIZED TRAFFIC VOLUME AADT 1: 1-5000 2: 5000-8000 3: 8000-20000 3+: > 20000	D SOCIAL STREET ACTIVITY 1: 0-30 2: 30-100 3: > 100 Sat / Tues		F PEDEST. INTENSITY 1: 0-300 2: 300-1000 3: > 1000 Sat / Tues		G SOCIAL PERFORM. RATIO 1: 0-5% 2: 5-15% 3: > 15 Sat / Tues	
<b>Youngstorget</b>	2	0	3	2	1	1	3	3
<b>Stortorvet (Oslo)</b>	2	3	3	2	2	2	3	3
<b>Torggata (Oslo)</b>	2	0	2	1	3	3	1	1
<b>Storgata</b>	1	1	3	2	3	3	2	2
<b>Olav Tryggvasons gt</b>	2	3	1	1	2	2	1	1
<b>Fjordgata</b>	2	3	1	1	2	2	1	2
<b>Vågsbunnen</b>	3	0	3	3	2	2	3	3
<b>Strandgaten (Bergen)</b>	2	2	1	1	3	2	1	1
<b>Bryggen</b>	3	3	3	2	3	3	2	2
<b>Torgalmenningen</b>	3	0	3	3	3	3	1	2
<b>Stortorget (Hamar)</b>	1	2	1	1	1	1	2	2
<b>Østre Torg</b>	1	0	2	1	2	1	2	2
<b>Torggata (Hamar)</b>	3	0	2	1	3	2	2	2
<b>Strandgata (Hamar)</b>	2	3	1	1	1	1	1	1
Arbeidersam. Plass	2	2	2	2	3	2	1	2
Kirkeristen/ Storgaten	2	1	1	1	3	2	1	1
Domkirken	3	0	3	2	3	3	3	3
Biskop Gunnerus gt	1	3	2	2	3	3	1	1
Byporten	2	0	3	3	3	3	2	2
Jernbanetorget	2	1	3	3	3	3	1	1
Pløens gate	2	1	2	2	3	2	1	2
Elgsetergate	1	3+	1	1	1	1	2	2
Grønnegata	1	2	1	1	1	1	2	1
Småstrandgaten	2	3	1	1	-	-	-	-
Vaskerelven	1	1	1	1	-	-	-	-
Torget	3	3+	3	3	-	-	-	-

**Table 9.2:**

*The parameters “Architectural Attractiveness”, “Motorized Traffic Volume”, Social Street Activity” and “Social Performance Ratio” for 26 arenas differentiated into scores*

The following conclusive assessment is based on the result in Table 9.2. These are prepared further into analogous tables in Table 9.3 and Table 9.9 presenting specific characteristics of the arenas with regard to “motorized traffic volume” and “architectural attractiveness”. Furthermore, the results are transferred into a SPSS data base providing supplementary illustrative figures.



## 9.2 Social Street Activity versus Motorized Traffic Volume

According to the hypothesis introduced in Section 2.2.5 (Part A) motorized traffic related to traffic problems is a relative notion. Consequently, what is regarded as a motorized car traffic volume is similarly highly subjective and should be defined according to culture, experience and furthermore according to a given geographical setting. However, the R&D project, "Main Streets"<sup>D20</sup> has defined car traffic in main streets equal to or above 8 000 AADT as high. This thesis follows the same definition. However, the thesis finds it appropriate to add another level of volume to the differentiation as some of the streets have extraordinary high motorized traffic volume. The differentiation is therefore as follows:

<i>Zero motorized traffic volume:</i>	<b>0:</b>	<i>0 AADT</i>
<i>Low motorized traffic volume:</i>	<b>1:</b>	<i>1 – 5 000 AADT</i>
<i>Medium motorized traffic volume:</i>	<b>2:</b>	<i>5 000 – 8 000 AADT</i>
<i>High motorized traffic volume:</i>	<b>3:</b>	<i>8 000 AADT – 20 000 AADT</i>
<i>Extraordinary motorized traffic volume:</i>	<b>4:</b>	<i>&gt; 20 000 AADT</i>

The registration of **Motorized Traffic Volume** in AADT, is attained from public traffic registrations by Oslo County Council and The Norwegian Public Roads Administration or from subjective estimates if such data do not exist. Registrations in AADT mean that specific registrations on week-days and on particular time of the day are not available. In some cases registration data has been attained from the above mentioned sources subsequent to the completion of the UL program (1995-1998). The relationship between **Motorized Traffic Volume** and other parameters presented previously in this chapter might be illustrated as follows:

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<sup>D20</sup> a project by the Norwegian Public Roads Administration, completed in 2005.



**The street as an extended road notion**  
Part D: Analysis and Conclusion (Chapters 8 & 9)

From Sections 8.4 - 8.10 we can derive the following data:

SOCIAL ARENA  - Arenas in bold is selected for analysis - Arenas in normal is not selected for analysis	H MOTORIZED TRAFFIC VOLUME AADT 1: 1-5000 2: 5000-8000 3: 8000-20000 3+: > 20000	D SOCIAL STREET ACTIVITY 1: 0-30 2: 30-100 3: > 100 Sat / Tues		F PEDEST. INTENSITY 1: 0-300 2: 300-1000 3: > 1000 Sat / Tues		G SOCIAL PERFORM. RATIO 1: 0-5% 2: 5-15% 3: > 15% Sat / Tues	
Elgsetergate	3+	1	1	1	1	2	2
Torget	3+	3	3	-	-	-	-
<b>Stortorvet (Oslo)</b>	3	3	2	2	2	3	3
<b>Bryggen</b>	3	3	2	3	3	2	2
<b>Fjordgata</b>	3	1	1	2	2	1	2
<b>Olav Tryggvasons gt</b>	3	1	1	2	2	1	1
<b>Strandgata (Hamar)</b>	3	1	1	1	1	1	1
Biskop Gunnerus gt	3	2	2	3	3	1	1
Småstrandgaten	3	1	1	-	-	-	-
<b>Stortorget (Hamar)</b>	2	1	1	1	1	2	2
Arbeidersam. plass	2	2	2	3	2	1	2
Grønnegata	2	1	1	1	1	2	1
<b>Strandgaten (Bergen)</b>	2	1	1	3	2	1	1
<b>Storgata</b>	1	3	2	3	3	2	2
Pløens gate	1	2	2	3	2	1	2
Kirkeristen/ Storgaten	1	1	1	3	2	1	1
Jernbanetorget	1	3	3	3	3	1	1
Vaskerelven	1	1	1	-	-	-	-
<b>Youngstorget</b>	0	3	2	1	1	3	3
<b>Vågsbunnen</b>	0	3	3	2	2	3	3
Domkirken	0	3	2	3	3	3	3
<b>Østre Torg</b>	0	2	1	2	1	2	2
<b>Torggata (Hamar)</b>	0	2	1	3	2	2	2
Byporten	0	3	3	3	3	2	2
<b>Torgalmenningen</b>	0	3	3	3	3	1	2
<b>Torggata (Oslo)</b>	0	2	1	3	3	1	1

**Table 9.3:**

Summary of the various differentiations of **Motorized Traffic Volume** versus **Pedestrian Intensity**, **Social Street Activity** and **Social Performance Ratio**.

## 9.2.1 Very Motorized Traffic Volume (3+)

The streets/ squares within the UL program with extraordinary traffic volume, exceeding 20 000 AADT, are:

- Elgseter gate, Trondheim: 30 000 AADT
- Torget; Bergen: 26 000 AADT

with the following relationship towards social street activity, pedestrian intensity and social performance ratio:

SOCIAL ARENA  - Arenas in bold is selected for analysis - Arenas in normal is not selected for analysis	H MOTORIZED TRAFFIC VOLUME AADT	D SOCIAL STREET ACTIVITY		F PEDEST. INTENSITY		G SOCIAL PERFORM. RATIO	
	1: 1-5000 2: 5000-8000 3: 8000-20000 3+: > 20000	1: 0-30 2: 30-100 3: > 100 Sat / Tues		1: 0-300 2: 300-1000 3: > 1000 Sat / Tues		1: 0-5% 2: 5-15% 3: > 15 Sat / Tues	
Elgsetergate	<b>3+</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>2</b>
Torget	<b>3+</b>	<b>3</b>	<b>3</b>	-	-	-	-

**Table 9.4:**  
 Summary of *Very High Motorized Traffic Volume* versus *Pedestrian Intensity, Social Street Activity and Social Performance Ratio*.

Neither Elgseter gate nor Torget are selected for further assessment in this thesis. However, both are relevant, due to extraordinary heavy motorized traffic. And furthermore, Torget is probably the most sought after social arena in the country, having a mean plot registration of social street activity in the period 10 am to 4 pm on Saturdays of 360 people (200 more than Torgalmenningen with no motorized traffic). These people, extending their stay after having visited the fish market, do not seem to mind being accompanied by 26 000 cars AADT.



**Figure 9.2:**  
 Torget in Bergen



**Figure 9.3:**  
*Elgseter gate in Trondheim - the main access street to the city centre.*

Elgseter gate is a totally different arena than Torget. Elgseter gate is part of the main access transport system to the city of Trondheim having international road status (E6). There are few pedestrians as the distance from the actual street into the city core is long. However, quite a few of the transport pedestrians take a break - enough for the street to enjoy a medium high social pedestrian ratio. A down-classification of the street, as proposed, and a reconstruction into a boulevard might provide it with a social significance as the motorized traffic volume will decrease and part of the street will be reserved for the local residents.

## Summary

The three examples of a street/ square with extraordinary motorized traffic indicate that pedestrian traffic and social street activity might very well occur, especially if the social arenas are attractive functionally and architecturally. It is, however, important that motorized traffic and social street activity have feasible physical conditions to operate sufficiently, preferably separately, but this is not necessarily a premise. Improved conditions for social activities, as implemented in Bryggen, have proved successful in increasing social street activities, but such implementations must be cautiously planned.

## 9.2.2 High Motorized Traffic Volume (3)

The streets/ squares within the UL program with high traffic volume, in the region of 8 000 – 20 000 AADT, are:

- **Bryggen**, Bergen: 18 000 AADT
- Småstrandgaten, Bergen: 18 000 AADT
- **Olav Tryggvasons gate**, Trondheim: 14 500 AADT
- **Strandgata**, Hamar: 14 200 AADT
- **Fjordgata**, Trondheim: 13 000 AADT
- **Stortorvet**, Oslo: 13 000 AADT
- **Biskop Gunnerus gate**, Oslo: 11 000 AADT,

with the following relationship towards social street activity, pedestrian intensity and social performance ratio:

SOCIAL ARENA  - Arenas in bold is selected for analysis - Arenas in normal is not selected for analysis	H MOTORIZED TRAFFIC VOLUME AADT 1: 1-5000 2: 5000-8000 3: 8000-20000 3+: > 20000	D SOCIAL STREET ACTIVITY 1: 0-30 2: 30-100 3: > 100 Sat / Tues		F PEDEST. INTENSITY 1: 0-300 2: 300-1000 3: > 1000 Sat / Tues		G SOCIAL PERFORM. RATIO 1: 0-5% 2: 5-15% 3: > 15 Sat / Tues	
		<b>Stortorvet (Oslo)</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>2</b>
<b>Bryggen</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>2</b>
<b>Fjordgata</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>2</b>
<b>Olav Tryggvasons gt</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>1</b>
<b>Strandgata (Hamar)</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>
Biskop Gunnerus gt	<b>3</b>	<b>2</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>1</b>	<b>1</b>
Småstrandgaten	<b>3</b>	<b>1</b>	<b>1</b>	-	-	-	-

**Table 9.5:**

Summary of **High Motorized Traffic Volume** versus **Pedestrian Intensity**, **Social Street Activity** and **Social Performance Ratio**.

The seven streets/ squares within the category High Motorized traffic are much diverse. Biskop Gunnerus gate, Olav Tryggvasons gate, Fjordgata, Strandgata and Småstrangaten are all ordinary urban streets with high motorized traffic although with different settings and functional significance. Olav Tryggvasons gate and Strangata are a part of the main transport system within Trondheim and Hamar respectively with a relatively high proportion of through traffic.



***The street as an extended road notion***  
Part D: Analysis and Conclusion (Chapters 8 & 9)

Stortorvet and Bryggen distinguish themselves from the other five both functionally and architecturally. Stortorvet is a public square with motorized traffic, including trams, surrounding it, and the picturesque Domkirkeparken as an essential neighbour. Bryggen was at the time of the registration suffering from a main traffic route now decreased in width and relocated closer to the waterfront to provide more public space in front of the wharfs. In Bryggen people (a high proportion of tourists during the summer season) seem to be strolling, visiting restaurants, shop-watching and buying souvenirs not settling down in the street, probably because there are no facilities available to settle down.



**Figure 9.4:**  
*Bryggen in Bergen 1995, divided from the sea-front by a busy four-lane main street.*



**Figure 9.5:**  
*Bryggen in Bergen 2005, an extended social arena due to a diversion of the main street.*

***The street as an extended road notion***

Part D: Analysis and Conclusion (Chapters 8 &amp; 9)

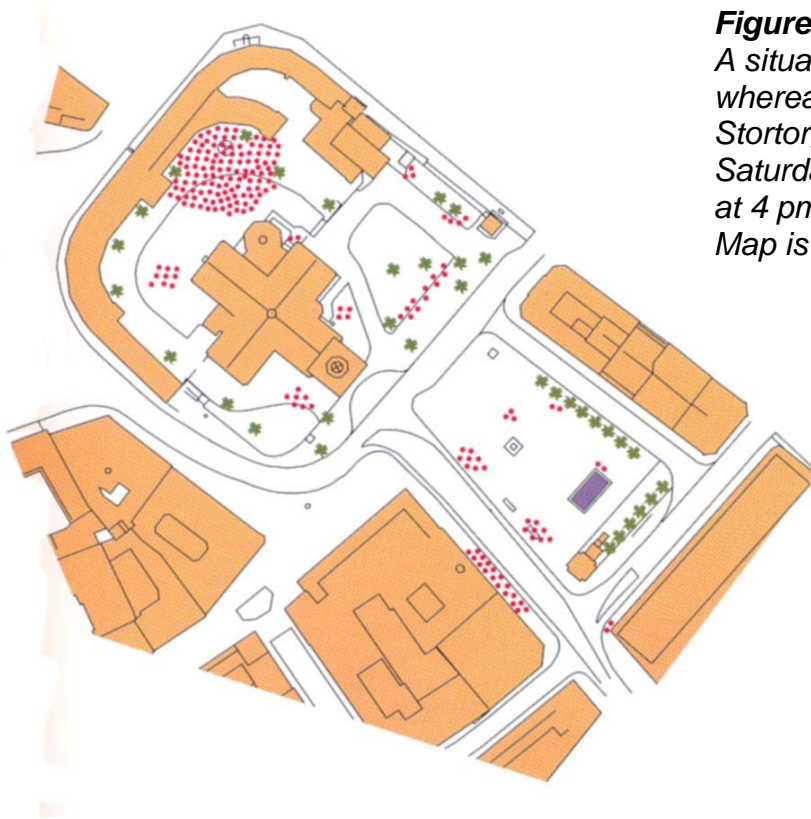
**Figure 9.6:**

*Tram stop at Stortorget, seen from Glasmagasinet. The street with cars and trams represents an unfortunate barrier for the accessibility to the center square.*

Not surprisingly, Stortorget and Bryggen are the two arenas with a mentionable social street activity (medium high score), Stortorget to a high degree supported by Domkirkeparken as a unique gathering location. With regard to motorized traffic, Stortorget has a special setting in the centre of four surrounding streets - three with relatively high motorized traffic. However, people within the actual, car-free market place, appreciate (at least on Tuesdays) the car-free environment in Stortorget, primarily referring to Domkirkeparken. What is vital to bear in mind is that public transport, a vital contributor to the motorized in Stortorget, in fact generates social street activity. This is particularly evident in Fig 9.7, where 34 plotted people of a total of 41 performing a social street activity actually within Stortorget are located at the tram stops in Grensen waiting for a tram (these days no one has to wait more than 5 minutes and would probably not have been registered).



**The street as an extended road notion**  
Part D: Analysis and Conclusion (Chapters 8 & 9)



**Figure 9.7:**  
*A situational description of the whereabouts of street users in Stortorget/ Domkirkeparken on Saturday 7<sup>th</sup> September 1996 at 4 pm.  
Map is not in scale.*

Olav Tryggvasons gate and Biskop Gunnerus gate are the only streets having a medium high pedestrian intensity, but few pedestrians are invited to stay as social activity performers.



**Figure 9.8:**  
*Biskop Gunnerus gate, a public transportation route, with people waiting for the tram as the only performed social street activity.*

## Summary

The seven examples of a street/ square with high motorized traffic volume are very diverse in function and with regard to pedestrian intensity. Stortorvet and Bryggen are the only arenas with a high social street activity but are also the two arenas with the most characteristic architectural features. The two shopping streets in Trondheim, Olav Tryggvasons gate and Fjordgata has a medium pedestrian intensity but a low social performance ratio indicating that few people actually are performing social street activities. Thus, the registrations can indicate that a high motorized traffic level has a certain negative effect on social street activity. However, if the presence of motorized traffic is diminished by rerouting or measures are implemented to reduce speed (Bryggen, Fig 9.5) a high motorized traffic volume as defined might not be a vital factor to restrict social street activity.

### 9.2.3 Medium Motorized Traffic Volume (2)

The streets/ squares within the UL program with medium traffic volume, in the region 5 000 – 8 000 AADT, are:

- Arbeidersamfunnets. plass, Oslo: 6 700 AADT
- Grønnegata, Hamar: 6 000 AADT
- **Stortorget**, Hamar: 5 500 AADT
- **Strandgaten**, Bergen: 5 000 AADT

with the following relationship towards social street activity, pedestrian intensity and social performance ratio:

SOCIAL ARENA  - Arenas in bold is selected for analysis - Arenas in normal is not selected for analysis	H MOTORIZED TRAFFIC VOLUME AADT 1: 1-5000 2: 5000-8000 3: 8000-20000 3+: > 20000	D SOCIAL STREET ACTIVITY 1: 0-30 2: 30-100 3: > 100 Sat / Tues		F PEDEST. INTENSITY 1: 0-300 2: 300-1000 3: > 1000 Sat / Tues		G SOCIAL PERFORM. RATIO 1: 0-5% 2: 5-15% 3: > 15% Sat / Tues	
	<b>Stortorget (Hamar)</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>2</b>
Arbeidersam. plass	<b>2</b>	<b>2</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>2</b>
Grønnegata	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>1</b>
<b>Strandgaten (Bergen)</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>1</b>

**Table 9.6:**

Summary of **Medium Motorized Traffic Volume** versus Pedestrian Intensity, Social Street Activity and Social Performance Ratio.

Four streets/ squares have a level of motorized traffic volume in the category 5 000 to 8 000 AADT. They are very diverse. In Hamar Stortorget is foremost a large market place unfortunately very affected by motorized traffic, with both cars and buses and various traffic equipment implements (Fig 9.9).



**Figure 9.9:** Stortorget is totally dominated by cars and motorized traffic. The car park to the right is consciously framed by unfortunate New Jersey elements.



**The street as an extended road notion**  
Part D: Analysis and Conclusion (Chapters 8 & 9)

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Strandgaten has with a modest motorized traffic volume and a various commercial offers the best conditions of being a blooming social arena. However, this is not the case. The street has a medium level of pedestrians, but they are here to shop, not to stop. A rehabilitation in 2005 has, apparently, improved the situation insignificantly. Being a typical shopping street, it is still designed for shopping and strolling - not for taking a break, but that is probably not vital as impressive social arenas for leisure activities are located in the immediate neighborhood.



**Figure 9.10:**  
*Strandgaten has moderate motorized traffic, just enough to provide it a busy atmosphere.*

Grønnegata has few pedestrians and far from any performers of social activities. Located next door to the popular Torggata, Grønnegata remains a dead end with occasional visitors on transfer to a more pleasant environment.



**Figure 9.11:**  
*Grønnegata in Hamar. Modest motorized traffic does not encourage people to stay in the street longer than necessary.*



## **Summary**

The four examples of a street/ square with medium motorized traffic have modest pedestrian intensity (Arbeidernes plass and Strandgaten have a medium level of intensity) and foremost low social street activity, although Stortorget in Hamar has a medium level of social performance ratio indicating that a relatively high proportion of the pedestrians strolling by, going to the cinema or the local library actually are staying behind long enough to be plotted. It is probably not the motorized traffic itself that obstructs pedestrians from performing social street activities rather than the traffic equipment that aesthetically pollutes the area (Fig 9.9). From these registrations derive that medium motorized traffic volume does not affect social street activity positively or negatively.

## 9.2.4 Low Motorized Traffic Volume (1)

The streets/ squares within the UL program with medium traffic volume, in the region 1 – 5 000 AADT, are:

- **Jernbanetorget**, Oslo : 4 900 AADT
- **Storgata**, Oslo: 4 600 AADT
- **Vaskerelven**, Bergen: 4 000 AADT
- **Kirkeristen/ Storgata**, Oslo: 3 100 AADT

with the following relationship towards social street activity, pedestrian intensity and social performance ratio:

SOCIAL ARENA  - Arenas in bold is selected for analysis - Arenas in normal is not selected for analysis	H MOTORIZED TRAFFIC VOLUME AADT 1: 1-5000 2: 5000-8000 3: 8000-20000 3+: > 20000	D SOCIAL STREET ACTIVITY  1: 0-30 2: 30-100 3: > 100 <b>Sat / Tues</b>		F PEDEST. INTENSITY  1: 0-300 2: 300-1000 3: > 1000 <b>Sat / Tues</b>		G SOCIAL PERFORM. RATIO  1: 0-5% 2: 5-15% 3: > 15 <b>Sat / Tues</b>	
		<b>Storgata</b>	<b>1</b>	<b>3</b>	<b>2</b>	<b>3</b>	<b>3</b>
Pløens gate	1	2	2	3	2	1	2
Kirkeristen/ Storgaten	1	1	1	3	2	1	1
Jernbanetorget	1	3	3	3	3	1	1
Vaskerelven	1	1	1	-	-	-	-

**Table 9.7:**

*Summary of **Low Motorized Traffic Volume** versus Pedestrian Intensity, Social Street Activity and Social Performance Ratio.*

Of the four streets in the category low motorized traffic volume, Storgata in Oslo is the only one selected for further assessment in this thesis. Storgata has very close to a medium motorized traffic, and the presence of for four tram lines (lines 11, 12, 13 & 17) with 5 min interval each resulting in an fairly continuous tram-flow, the street is heavily influenced by motorized traffic. In fact, Storgata is the tram paradise with physical implementations (basically fencing) providing more or less free accessibility for the tram, to the delight of the tram driver but annoying for anybody else who feels alien in such an inhuman physical environment (Fig 9.12). However, Storgata has a medium level of pedestrians and some seem to stay behind on Saturdays.

**The street as an extended road notion**

Part D: Analysis and Conclusion (Chapters 8 & 9)



**Figure 9.12:**  
*Storgata is very much influenced by the tram.*

Jernbanetorget is the most busy public transport transit in Norway with approximately 150 000 public transport users a day. Necessarily, the pedestrian intensity is moderately high. What might be more surprising is that a relatively high proportion of the transport pedestrians seem to settle down within the car-free zone of the square although little effort has been done to invite them. Lately, adjacent shopping malls have attracted more non-travelling visitors increasing the number of performers of social street activities in the adjacent area, Byporten being the most significant.

## Summary

The four examples of a street/ square with low motorized traffic have all medium level of pedestrian intensity. Only Storgata and Jernbanetorget have a parallel medium level of social street activity, most probably a high proportion being public transport users. All streets have a low social performance ratio, meaning that relatively few of the pedestrians actually take a break. From the examples, one might conclude that a low motorized traffic volume does not necessarily promote social street activity.

## 9.2.5 Zero Motorized Traffic Volume (0)

The streets/ squares within the UL program with no traffic volume are:

- **Torggata**, Hamar: 0 AADT
- **Østre Torg**, Hamar 0 AADT
- **Torggata**, Oslo: 0 AADT
- **Youngstorget**, Oslo: : 0 AADT
- **Domkirken**, Oslo: 0 AADT
- **Byporten**, Oslo: 0 AADT
- **Torgallmeningen**, Bergen: 0 AADT
- **Vågsbunnen**, Bergen: 0 AADT

with the following relationship towards social street activity, pedestrian intensity and social performance ratio:

SOCIAL ARENA  - Arenas in bold is selected for analysis - Arenas in normal is not selected for analysis	H MOTORIZED TRAFFIC VOLUME AADT 1: 1-5000 2: 5000-8000 3: 8000-20000 3+: > 20000	D SOCIAL STREET ACTIVITY  1: 0-30 2: 30-100 3: > 100 <b>Sat / Tues</b>		F PEDEST. INTENSITY  1: 0-300 2: 300-1000 3: > 1000 <b>Sat / Tues</b>		G SOCIAL PERFORM. RATIO  1: 0-5% 2: 5-15% 3: > 15 <b>Sat / Tues</b>	
		<b>Youngstorget</b>	<b>0</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>1</b>
<b>Vågsbunnen</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>3</b>	<b>3</b>
Domkirken	<b>0</b>	<b>3</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>
<b>Østre Torg</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>2</b>
<b>Torggata (Hamar)</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>2</b>
Byporten	<b>0</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>2</b>
<b>Torgallmenningen</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>1</b>	<b>2</b>
<b>Torggata (Oslo)</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>3</b>	<b>1</b>	<b>1</b>

**Table 9.8:**

*Summary of **No Motorized Traffic Volume** versus **Pedestrian Intensity**, **Social Street Activity** and **Social Performance Ratio**.*

Eight streets/ squares have no motorized traffic. The arenas are diverse. Torggata in Oslo and Hamar are both pedestrian streets with shopping facilities and some cultural offers. Vågsbunnen, Østre Torg and Youngstorget have both adjacent motorized traffic (one or more surrounding streets) of 8 000 AADT (Kong Oscars gate), 8 000 AADT (Vangsveien) and 7 000 AADT (four surrounding streets)

***The street as an extended road notion***

Part D: Analysis and Conclusion (Chapters 8 & 9)

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respectively. Domkirken, including Domkirkeparken, is a scheduled social arena, Byporten is a shopping centre with one main entrance from the car-free part of Jernbanetorget, and Torgalmenningen is one of the most magnificent urban spaces in the country.

According to table 10.8 above Youngstorget, Vågsbunnen and Domkirken have a high social performance ratio score both days, providing them the status as true social arenas. The pedestrian street Torggata has a low social performance ratio, not surprising knowing the functional characteristics of a typical pedestrian street. However, what is more unexpected is the low social performance ratio of Torgalmenningen. Torgalmenningen has a high pedestrian intensity, but the relatively high social street activity is not high enough to exceed 6,0 % (4,9% on Saturdays) just high enough to qualify for a medium social performance ratio. As mentioned, Torgalmenningen is not regarded as a social arena among the residents of Bergen. In fact the square is generally used as a transit location between adjacent areas of more social significance, Torget being a prime example.

## **Summary**

Only three of the eight arenas with no traffic have a high social performance ratio and three have a medium ratio. Two arenas have a low social performance ratio, Torgata in Oslo both days, Torgalmenningen on Saturdays (when the pedestrian intensity is especially high). This result may be regarded as surprising to some, nonetheless it invalidates the myths stating that no motorized traffic is the prime generating factor to promote social street activity. A car-free environment is undoubtedly a strong contributing factor to encourage people to stay but other factors are equally important.

## 9.3 Summary Conclusion Hypothesis 1

Sections 9.3.1 to 9.3.5 provide a conclusion for the four variables of motorized traffic volume in order to confirm or refute the presented hypothesis 1:

***A motorized traffic volume does not restrict social street activity.***

Table 9.9 below present a summary of the dependent variables “Social Street Activity” and “Social Performance Ratio” excluding “Pedestrian Intensity”:

SOCIAL ARENA  - Arenas in bold is selected for analysis - Arenas in normal is not selected for analysis	H MOTORIZED TRAFFIC VOLUME AADT 1: 1-5000 2: 5000-8000 3: 8000-20000 3+: > 20000	D SOCIAL STREET ACTIVITY		G SOCIAL PERFORM. RATIO	
		Sat / Tues		Sat / Tues	
Elgsetergate	3+	1	1	2	2
Torget	3+	3	3	-	-
<b>Stortorvet (Oslo)</b>	3	3	2	3	3
<b>Bryggen</b>	3	3	2	2	2
<b>Fjordgata</b>	3	1	1	1	2
<b>Olav Tryggvasons gt</b>	3	1	1	1	1
<b>Strandgata (Hamar)</b>	3	1	1	1	1
Biskop Gunnerus gt	3	2	2	1	1
Småstrandgaten	3	1	1	-	-
<b>Stortorget (Hamar)</b>	2	1	1	2	2
Arbeidersam. plass	2	2	2	1	2
Grønnegata	2	1	1	2	1
<b>Strandgaten (Bergen)</b>	2	1	1	1	1
<b>Storgata</b>	1	3	2	2	2
Pløens gate	1	2	2	1	2
Kirkeristen/ Storgaten	1	1	1	1	1
Jernbanetorget	1	3	3	1	1
Vaskerelven	1	1	1	-	-
<b>Youngstorget</b>	0	3	2	3	3
<b>Vågsbunnen</b>	0	3	3	3	3
Domkirken	0	3	2	3	3
<b>Østre Torg</b>	0	2	1	2	2
<b>Torggata (Hamar)</b>	0	2	1	2	2
Byporten	0	3	3	2	2
<b>Torgalmenningen</b>	0	3	3	1	2
<b>Torggata (Oslo)</b>	0	2	1	1	1

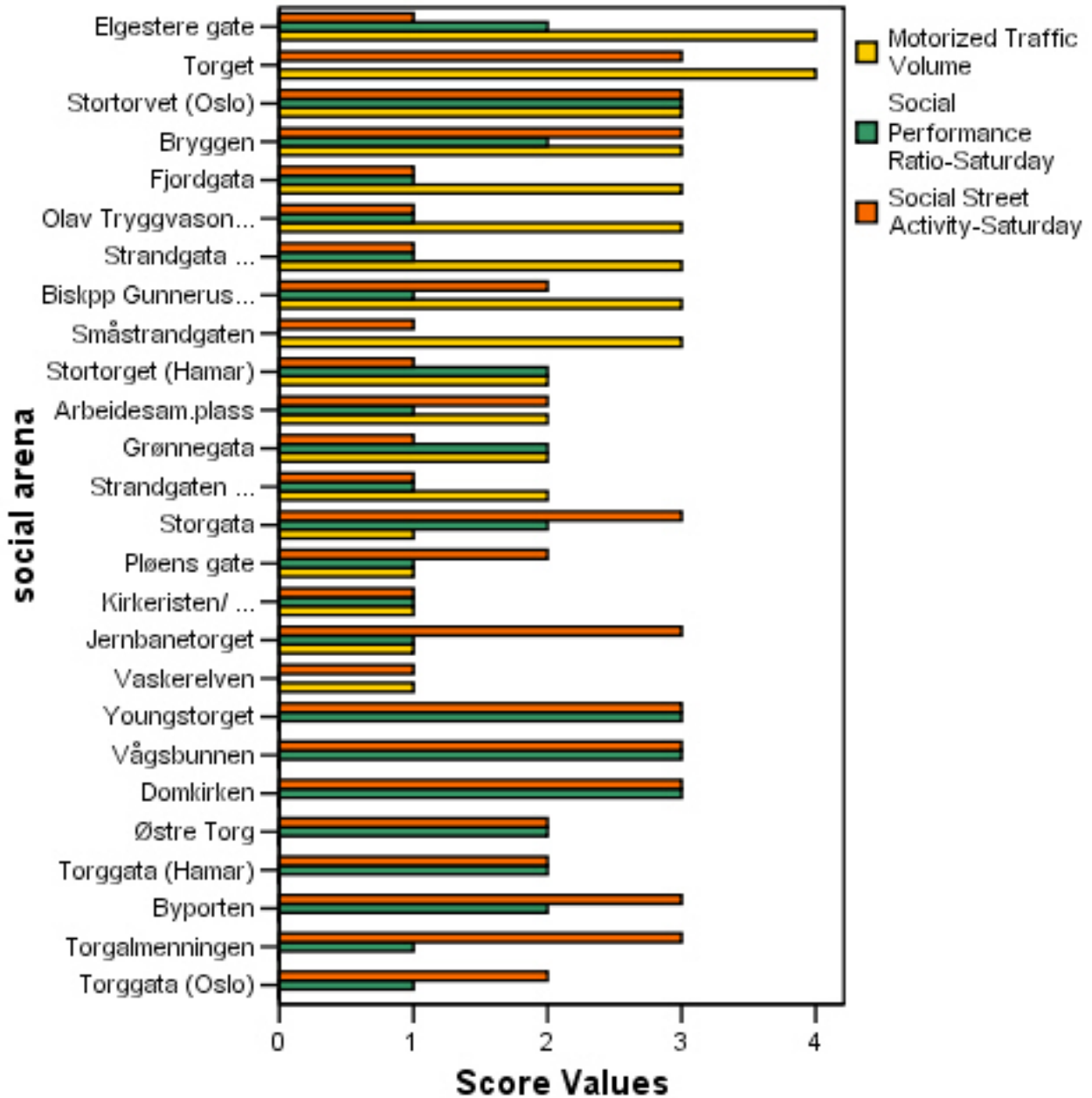
**Table 9.9:**

*Summary of the relationship between Motorized Traffic Volume and, Social Street Activity and Social Performance Ratio*



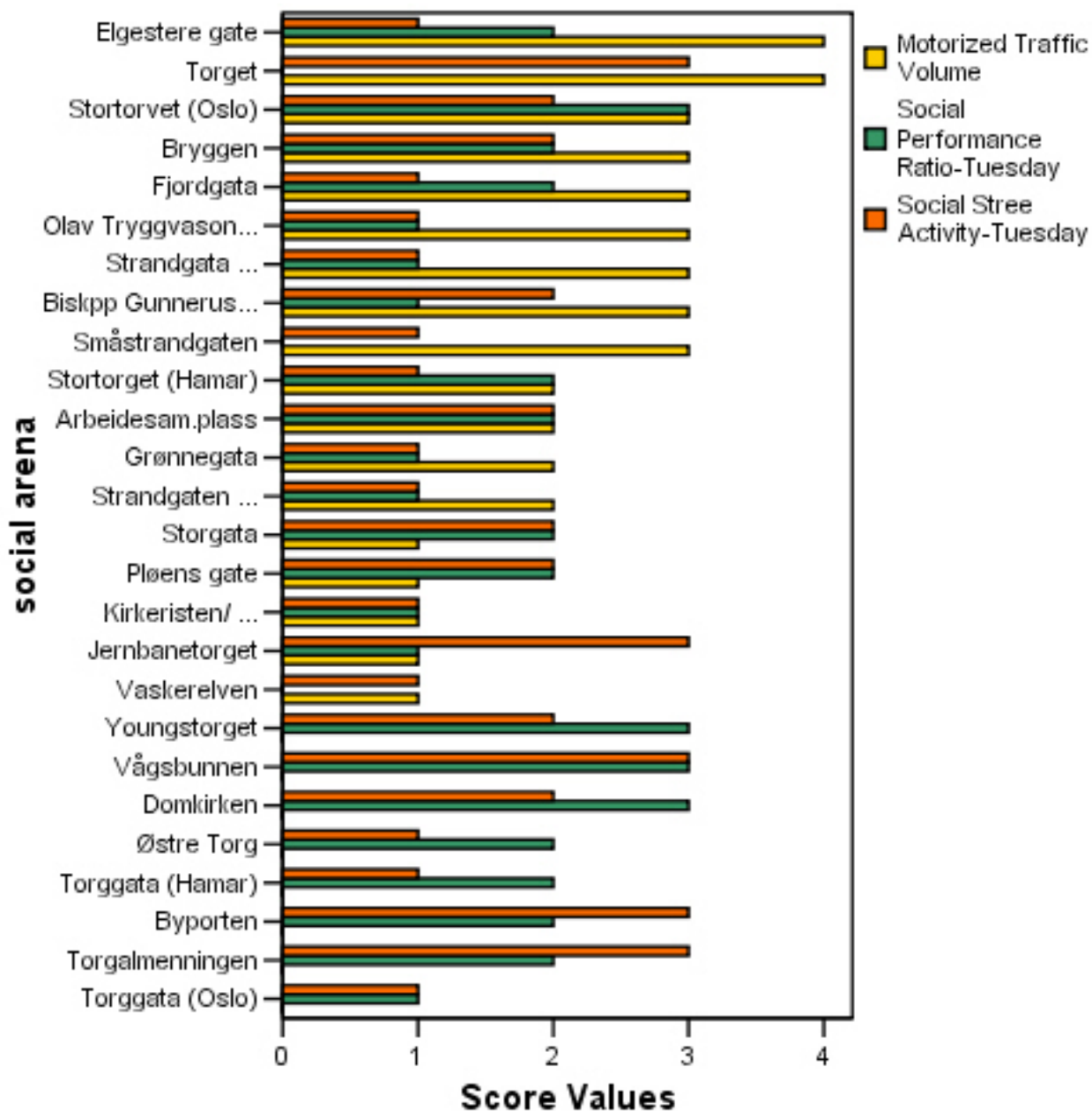
**The street as an extended road notion**  
 Part D: Analysis and Conclusion (Chapters 8 & 9)

Figure 9.13 And 9.14 below are another illustrations of Table 10.9 in data-base format derived from SSPS:



**Figure 9.13:**  
 Summary of the relationship between Motorized raffic Volume, Social Street Activity and Social Performance Ratio starting with score values 1-4 on Saturdays:  
 0: Zero  
 1: Low  
 2: Medium  
 3: High  
 4: Very High (3+)  
 Only Motorized Traffic Volume has 4 as a score indicating a very high volume (3+).  
 Some arenas have no registration for Social Street Activity and Social Performance Ratio.

**The street as an extended road notion**  
 Part D: Analysis and Conclusion (Chapters 8 & 9)



**Figure 9.14:**

Summary of the relationship between Motorized Traffic Volume, Social Street Activity and Social Performance Ratio starting with score values 1-4 on Tuesdays:

0: Zero

1: Low

2: Medium

3: High

4: Very High (3+)

Only Motorized Traffic Volume has 4 as a score indicating a very high volume (3+). Some arenas have no registration for Social Street Activity and Social Performance Ratio.

***The street as an extended road notion***  
Part D: Analysis and Conclusion (Chapters 8 & 9)

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Torget has no registration for pedestrian intensity, but has a very high social street activity, the highest among the registered arenas and approximately 2,5 time higher than Torgalmenningen. Consequently one might assume that the social performance ratio for Torget is also high. Thus, with a very high motorized traffic volume of 26 000 AADT, this example clearly confirm the presented hypothesis 1. Furthermore, one might have expected a higher social performance ratio for several arenas with no motorized traffic, especially for Torgalmenningen and Torggata in Oslo, although the reason for this is accounted for. However, several arenas with high motorized traffic volume have a low social street activity and social performance ratio, Olav Tryggvasons gate, Fjordgata and Strandgata in Hamar being typical examples; and the traffic free arenas Vågsbunnen, Domkirken (including Domkirkeparken) and Youngstorget have a high social performance ratio.

Thus, from the registrations, the analyses and the closing arguments derives the final conclusion that hypothesis 1: “a motorized traffic volume does not restrict social street activity”, **is neither confirmed or refuted.**

With regard to motorized traffic volume there is no precise truth. Motorized traffic volume is, as previously described, a relative notion, experienced very differently from one human being to another, from one culture to another and from on particular place to another. Motorized traffic volume is undoubtedly affecting social street activity, but other factors are equally important to determine whether a transport pedestrian decides to stop for a social break at one particular location.

## 9.4 Architectural Attractiveness versus Social Street Activity

As accounted indicated, architectural attractiveness is subjectively experienced meaning that all people have different references of how we comprehend an aesthetical impression or the architectural attractiveness of an object. In chapter 8 the descriptions of architectural attractiveness were attained from the following:

- The four available UL program reports (Chapter 5).
- Subjective appraisal by the author (Chapter 7).

Data within the parameter “social factors” are used in this chapter to provide important information about how some aspects of architectural attractiveness affect the public (the interview objects): These were:

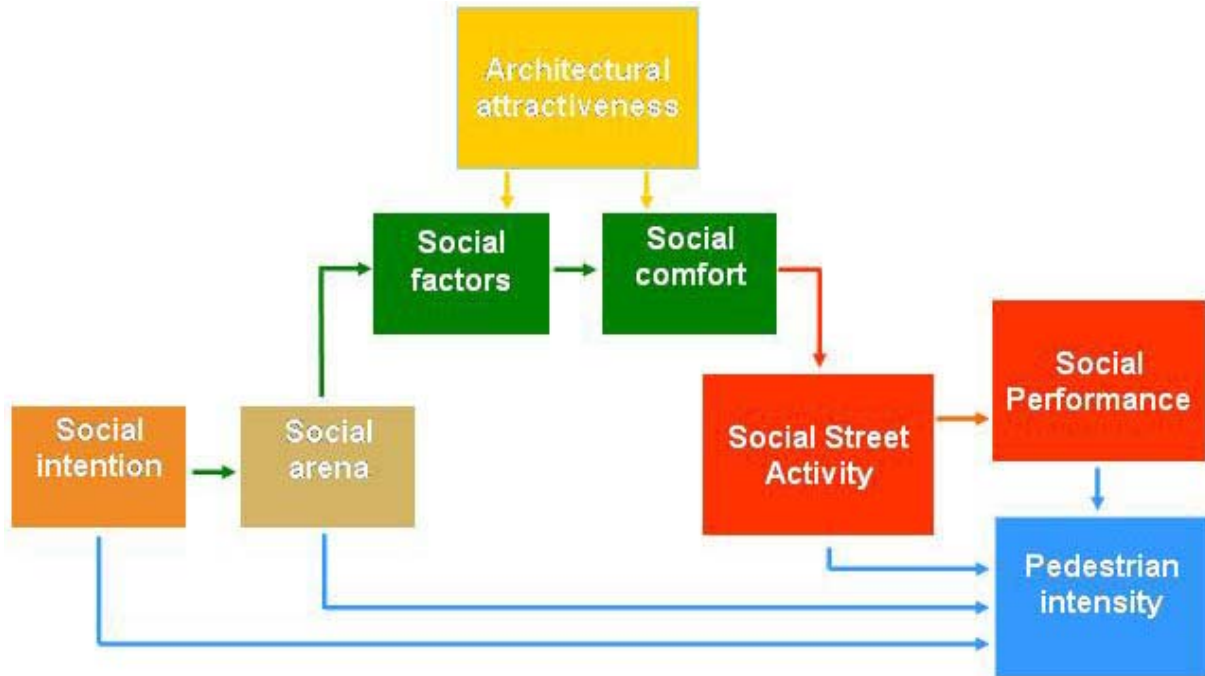
- The street is narrow and “intimate”
- The street is open and clearly set out
- Bushes and trees
- Nice buildings
- Quiet and peaceful
- Good seating facilities

In this chapter the descriptions of **architectural attractiveness** are attained from the following:

1. The four available UL program reports.
2. Subjective appraisal by the author (chapter 8).
3. Data within the parameter “social factors” (D) that provide important information about how some aspects of architectural attractiveness affect the public (the interview objects): These are:
  - The street is narrow and “intimate”
  - The street is open and clearly set out
  - Bushes and trees
  - Nice buildings
  - Quiet and peaceful
  - Good seating facilities

**The street as an extended road notion**  
Part D: Analysis and Conclusion (Chapters 8 & 9)

The relationship between **architectural attractiveness** and other parameters presented previously in this chapter might be illustrated as follows:



**Figure 9.15:**  
*Parametric relationship*

**The street as an extended road notion**  
Part D: Analysis and Conclusion (Chapters 8 & 9)

From Table 9.1 derives the following data:

SOCIAL ARENA  - Arenas in bold is selected for analysis - Arenas in normal is not selected for analysis	I ARCHITECTURAL ATTRACTIVENESS 1: Low 2: Medium 3: High	D SOCIAL STREET ACTIVITY 1: 0-30 2: 30-100 3: > 100 Sat / Tues		F PEDEST. INTENSITY 1: 0-300 2: 300-1000 3: > 1000 Sat / Tues		G SOCIAL PERFORM. RATIO 1: 0-5% 2: 5-15% 3: > 15% Sat / Tues	
		Domkirken	3	3	2	3	3
Vågsbunnen	3	3	3	2	2	3	3
Bryggen	3	3	2	3	3	2	2
Torggata (Hamar)	3	2	1	3	2	2	2
Torgalmenningen	3	3	3	3	3	1	2
Torget	3	-	-	3	3	-	-
Youngstorget	2	3	2	1	1	3	3
Stortorget (Oslo)	2	3	2	2	2	3	3
Byporten	2	3	3	3	3	2	2
Arbeidersam. plass	2	2	2	3	2	1	2
Pløens gate	2	2	2	3	2	1	2
Fjordgata	2	1	1	2	2	1	2
Torggata (Oslo)	2	2	1	3	3	1	1
Kirkeristen/ Storgaten	2	1	1	3	2	1	1
Olav Tryggvasons gt	2	1	1	2	2	1	1
Jernbanetorget	2	3	3	3	3	1	1
Strandgaten (Bergen)	2	1	1	3	2	1	1
Strandgata (Hamar)	2	1	1	1	1	1	1
Småstrandgaten	2	-	-	1	1	-	-
Storgata	1	3	2	3	3	2	2
Østre Torg	1	2	1	2	1	2	2
Stortorget (Hamar)	1	1	1	1	1	2	2
Elgsetergate	1	1	1	1	1	2	2
Grønnegata	1	1	1	1	1	2	1
Biskop Gunnerus gt	1	2	2	3	3	1	1
Vaskerelven	1	-	-	1	1	-	-

**Table 9.10:**

Summary of the various differentiations of **Architectural Attractiveness** versus **Pedestrian Intensity**, **Social Street Activity** and **Social Performance Ratio**.



## 9.4.1 High Architectural Attractiveness (3)

The streets/ squares within the UL program with architectural attractiveness are:

- Domkirken, Oslo
- **Vågsbunnen, Bergen**
- **Bryggen, Bergen**
- **Torggata, Hamar**
- **Torgalmenningen, Bergen**
- Torget, Bergen

with the following relationship towards social street activity, pedestrian intensity and social performance ratio:

SOCIAL ARENA  - Arenas in bold is selected for analysis - Arenas in normal is not selected for analysis	I ARCHITECTURAL ATTRACTIVENESS 1: Low 2: Medium 3: High	D SOCIAL STREET ACTIVITY		F PEDEST. INTENSITY		G SOCIAL PERFORM. RATIO	
		Sat / Tues		Sat / Tues		Sat / Tues	
Domkirken	3	3	2	3	3	3	3
<b>Vågsbunnen</b>	3	3	3	2	2	3	3
<b>Bryggen</b>	3	3	2	3	3	2	2
<b>Torggata (Hamar)</b>	3	2	1	3	2	2	2
<b>Torgalmenningen</b>	3	3	3	3	3	1	2
Torget	3	-	-	3	3	-	-

**Table 9.11:**

*Summary of Architectural Attractiveness versus Pedestrian Intensity, Social Street Activity and Social Performance Ratio.*

Domkirken, including Domkirkeparken, is not selected for a thorough analysis although being characterized as the only arena in Oslo with a high architectural attractiveness. The park, being the most interesting part of this particular registration area with regard to social street activity, is located as a backyard to Oslo Cathedral and enclosed by the present “Basarhallene”. The park has a long history. Originally it was used as a graveyard for the wealthy during the 19<sup>th</sup> century. A cholera epidemic in 1805 put an end to the practice of burying people in the city centre and in 1854 the building was integrated into the “Basarhallene” designed by Chr. Grosch (Fig 9.16).

***The street as an extended road notion***  
Part D: Analysis and Conclusion (Chapters 8 & 9)

---



**Figure 9.16:**  
*Part of “Basarhallene”, designed by architect Chr. H Grosch*

“Basarhallene” had a function of being a storehouse for the market square trade, especially for meat. However, due to the criticism of having meat stored next to the church door, the building was converted into studios for various types of artist, especially applied art. Parallel to this functional transformation, the actual park was invaded by drug addicts who totally occupied the place until the 1990s when the art studios were replaced by cafés. This conversion resulted in the banishment of the drug addicts making the park available for the public. Now the park is a blooming rescue for people that want to relax away from the frantic Karl Johans gate with the advantage of only being 50 meters away (Fig 9.17).



**Figure 9.17:**  
*Domkirkeparken is the true social arena within the study area of Oslo. A unique urban setting created for recreation and social gatherings.*

Vågsbunnen is previously thoroughly described. Having the highest social performance ratio among the registration areas, it is no doubt an ultimate social arena. The fact that the area is without motorized traffic (except the crossing of Kong Oscars gate with 8 000 AADT) and having a high architecture attractiveness, truly invalidate the presented hypothesis in this thesis. Its architectural attractiveness is linked to the human scale of the streets and the picturesque physical environment rather than the high architectural quality of monumental buildings (Fig10.18). The combination of a pleasant physical environment and commercial and leisurely offers is the key factors to explain that approximately 50% of the transport pedestrians find it natural to stay behind for a break.



***The street as an extended road notion***  
Part D: Analysis and Conclusion (Chapters 8 & 9)

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**Figure 9.18:**  
*Vågsbunnen, a true social with a picturesque and appealing physical environment.*

Bryggen and Torgalmenningen have both a medium high social performance ratio due to the simple fact that too few of the high number of visitors actually are staying long enough to be registered as performers of social street activity. Both arenas have a high level of architectural attractiveness, Bryggen with its international celebrated architectural features and Torgalmenningen with its unique monumental building environment, not necessary in a human scale as Vågsbunnen but still appealing. Foreign tourists might wonder why Torgalmenningen is not the social arena as expected.

For the residents of Bergen Torgalmenningen has no tradition of being a social arena. It is, however, an important arena for various gatherings and a transit location for the transport pedestrians on the way to Torget or Bryggen. Its architectural quality might be mostly appreciated by foreign tourists/ professionals (or people like myself).

***The street as an extended road notion***  
Part D: Analysis and Conclusion (Chapters 8 & 9)

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**Figure 9.19:**  
*Torgalmeningen, a busy arena, but most people are in the process of moving.*

Torget in Bergen is hardly been mentioned so far in this thesis. The architectural attractiveness of Torget is associated with the large urban space limited by Vågsbunnen, Bryggen and Strandkaien, the latter having a magnificent façade towards Vågsbunnen (Fig 9.20). The marked stalls are also part of the architectural characteristics of Torget, being much appreciated by most.

The last arena to be classified as having a high architectural attractiveness is Torggata in Hamar. Although having “Triangelgården” as a monumental building of high architectural quality (Fig 8.64), it is the general visual impression of the pedestrian street that is rated high (Fig 9.21). In Hamar, Torggata is unique and emerge architectural positively among a rather dull generally built environment in the city centre of Hamar. Thus, it is doubtful that Torggata had been rated highly architectural attractive being located adjacent to the other arenas within this category.



**The street as an extended road notion**  
Part D: Analysis and Conclusion (Chapters 8 & 9)



**Figure 9.20:**  
*Torget on a busy summer day offering clothing and various foods. The magnificent Strandkaaien-façade to the left.*



**Figure 9.21:**  
*Torggata I Hamar, a pleasant arena for strolling, but relatively few are settling or stopping.*



## **Summary**

The six arenas being classified as highly architectural attractive have different status as social arenas according to the social performance ratios. The result is that architectural attractiveness is important to generate social street activity, but is rarely the only contributing factor. Bryggen, an international cultural heritage monument is a magnet for tourists but not necessarily for people that want to perform social streets activities; Torgalmenningen, the unique urban space of architectural splendour is in fact a transit location for the local transport pedestrians and Domkirkeparken, the present ultimate social activity retreat of Oslo ones was a derelict arena for drug addicts before the cafés were established.

## 9.4.2 Medium Architectural Attractiveness (2)

The streets/ squares within the UL program with medium traffic volume are:

- **Youngstorget, Oslo**
- **Stortorvet, Oslo**
- Byporten, Oslo
- Arbeidersamfunnets plass, Oslo
- Pløens gate, Oslo
- **Fjordgata, Trondheim**
- **Torggata, Oslo**
- Kirkeristen/ Storgata, Oslo
- **Olav Tryggvasons gate, Trondheim**
- Jernbanetorget, Oslo
- **Strandgaten, Bergen**
- **Strandgata, Hamar**
- Småstrandgaten, Bergen

with the following relationship towards social street activity, pedestrian intensity and social performance ratio:

SOCIAL ARENA  - Arenas in bold is selected for analysis - Arenas in normal is not selected for analysis	I ARCHITECTURAL ATTRACTIVENESS 1: Low 2: Medium 3: High	D SOCIAL STREET ACTIVITY 1: 0-30 2: 30-100 3: > 100		F PEDEST. INTENSITY 1: 0-300 2: 300-1000 3: > 1000		G SOCIAL PERFORM. RATIO 1: 0-5% 2: 5-15% 3: > 15	
		Sat /	Tues	Sat /	Tues	Sat /	Tues
<b>Youngstorget</b>	2	3	2	1	1	3	3
<b>Stortorvet (Oslo)</b>	2	3	2	2	2	3	3
Byporten	2	3	3	3	3	2	2
Arbeidersam. plass	2	2	2	3	2	1	2
Pløens gate	2	2	2	3	2	1	2
<b>Fjordgata</b>	2	1	1	2	2	1	2
<b>Torggata (Oslo)</b>	2	2	1	3	3	1	1
Kirkeristen/ Storgaten	2	1	1	3	2	1	1
<b>Olav Tryggvasons gt</b>	2	1	1	2	2	1	1
Jernbanetorget	2	3	3	3	3	1	1
<b>Strandgaten (Bergen)</b>	2	1	1	3	2	1	1
<b>Strandgata (Hamar)</b>	2	1	1	1	1	1	1
Småstrandgaten	2	-	-	1	1	-	-

**Table 9.12:**

Summary of **Medium Architectural Attractiveness** versus Pedestrian Intensity, Social Street Activity and Social Performance Ratio.

***The street as an extended road notion***

Part D: Analysis and Conclusion (Chapters 8 &amp; 9)

Strandgaten in Bergen, Youngstorget and Stortorvet in Oslo are probably within the upper level of the medium category. The two latter areas are the only ones having a high social performance ratio. Especially Youngstorget attracted social street activity as the initial pedestrian intensity both days was low. Architectural attractiveness is undoubtedly a contributing factor for this high social street activity level. Strandgaten in Bergen, being an architectural well proportionated street (Fig 9.22) (although the maintenance level was low during the registrations) <sup>D21</sup> has high pedestrian intensity but low social street activity and social performance ratio. The street is appreciated for being intimate and narrow, but this architectural feature is apparently not enough to encourage people to make a break.

**Figure 9.22:**

*Part of Strandgaten in Bergen, illustrating the homogenous building blocks constituting the characteristic street room.*

Jernbanetorget and Byporten are the two only arenas with a high social street activity both Saturdays and Tuesdays, although the social performance ratio is low, probably not surprising knowing that this location is probably the spot in Norway with most pedestrians. The architectural character is characterized by relatively high rise buildings and a rather inhuman built environment.

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<sup>D21</sup> *Strandgaten has now been rehabilitated to a high aesthetical level, and would, in its present condition, undoubtedly have been rated as being highly architectural attractive.*

**The street as an extended road notion**  
Part D: Analysis and Conclusion (Chapters 8 & 9)

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**Figure 9.23:**  
*Part of Jernbanetorget with  
Byporten just to the right.  
A convenient stairway is  
leading to the main square,  
enabling visitors to take a  
break while waiting for  
public transport.*

Torgata in Oslo is among the category with medium high architectural attractiveness. The pedestrian street has, as mentioned, no building with particular architectural interest. However, no attempt has been made to encourage people to stay. There are few, if any, facilities for seating and the street is inconspicuously exposed from both Youngstorget and Stortorvet. Although the street floor has been recently rehabilitated (mid 1990s), the standard of the architectural quality is poor.

Consequently, another rehabilitation project has been launched to give the street a more appealing aesthetical appearance (Fig 9.25). Though, to transform this part of Torggata from a gloomy transportation route between Youngstorget and Stortorget to a blooming social arena, a more ambitious improvement than replacing the floor



**The street as an extended road notion**  
Part D: Analysis and Conclusion (Chapters 8 & 9)

covering is necessary. Torggata has great potential of being a pleasant urban space. It has a good proportion between width and height giving the street an intimate visual appearance. Furthermore, the buildings, although varied, blend well together. However, the maintenance is generally poor, the wear is palpable and the influential chain stores are absent for understandable reasons. Hopefully, the forthcoming rehabilitation of Torggata will provide a total uplift including aesthetical improvement of buildings and street furniture- to make it more architectural attractive.



**Figure 9.24:**  
*Left:  
Torggata, a popular pedestrian street without any elements to invite social activity.*

**Figure 9.25:**  
*Below:  
Torggata, an illustration showing a proposal for new paving.*



## **Summary**

50% of the analysed arenas and of the total number of presented locations are rated with medium architectural attractiveness. The result within this category is not significant with regard to architectural attractiveness. Youngstorvet and Stortorvet do have a high social performance ratio, and it is reason to believe that architectural attractiveness is a contributing factor to achieve that. A main conclusion, however, is that one might expect a higher degree of social street activity in some arenas if the aesthetical quality has been improved.



### 9.4.3 Low Architectural Attractiveness (1)

The streets/ squares within the UL program with low architectural attractiveness are:

- **Storgata, Oslo** :
- **Østre Torg, Hamar**
- **Stortorget, Hamar**
- Elgseter gate, Trondheim
- Grønnegata, Hamar
- Biskop Gunnerus gate, Oslo
- Vaskerelven, Bergen

with the following relationship towards social street activity, pedestrian intensity and social performance ratio:

SOCIAL ARENA  - Arenas in bold is selected for analysis - Arenas in normal is not selected for analysis	I ARCHITECTURAL ATTRACTIVENESS 1: Low 2: Medium 3: High	D SOCIAL STREET ACTIVITY 1: 0-30 2: 30-100 3: > 100		F PEDEST. INTENSITY 1: 0-300 2: 300-1000 3: > 1000		G SOCIAL PERFORM. RATIO 1: 0-5% 2: 5-15% 3: > 15	
		Sat / Tues	Sat / Tues	Sat / Tues	Sat / Tues	Sat / Tues	Sat / Tues
<b>Storgata</b>	1	3	2	3	3	2	2
<b>Østre Torg</b>	1	2	1	2	1	2	2
<b>Stortorget (Hamar)</b>	1	1	1	1	1	2	2
Elgsetergate	1	1	1	1	1	2	2
Grønnegata	1	1	1	1	1	2	1
Biskop Gunnerus gt	1	2	2	3	3	1	1
Vaskerelven	1	-	-	1	1	-	-

**Table 9.13:**

*Summary of **Low Architectural Attractiveness** versus Pedestrian Intensity, Social Street Activity and Social Performance Ratio.*

Apart from Biskop Gunnerus gate and Storgata in Oslo, no arenas within the category low architectural attractiveness have a high level of pedestrian intensity and a medium level of social street activity. However, what might be surprising is that among the relatively few people that actually include these place within their transportation route, a relatively high proportion is actually staying behind to be registered as performers of social street activity. All arenas, expect, Biskop Gunnerus gate, have attained a medium social performance ratio. It is hard to detect what is

***The street as an extended road notion***  
Part D: Analysis and Conclusion (Chapters 8 & 9)

---

actually attracting people to stay in Grønnegata in Hamar with virtually no offers what so ever. Offers are probably the key cause for the apparent social success of Østre Torg and Stortorget, a stone throw away from the dull Grønnegata. The library and particularly the local cinema are generating elements to attract people in Stortorget, while commercial offers are contributing elements in Østre Torg. Their location adjacent to the popular Torggata is also an advantage.



**Figure 9.26:**  
*Østre Torg in Hamar with elements of vegetative sculptures, unfortunately not a contributing factor to improve the architectural attractiveness.*



**Figure 9.27:**  
*Stortorget in Hamar facing the public library (to the left) and "Folkets Hus" (to the right) with the local cinema. This part of the square is totally dominated by cars, reducing the total architectural attractiveness.*

***The street as an extended road notion***

Part D: Analysis and Conclusion (Chapters 8 & 9)

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Storgata in Oslo is rated low with regard to architectural attractiveness due to various factors described earlier. Storgata is a prime example how the presence of public transport and particularly the physical implements to improve its accessibility, can totally devastate the aesthetical impression of a street. This fact is even admitted by the planner of the fatal project. Still, Storgata has a high social street activity on Saturdays and a medium social performance ratio both days, and the key question is whether these values had increased without the implementation of the accessibility improvement measures. Some will probably state that the street would have been more accessible to other groups of street users including pedestrians among. What is certain, however, is that the explanation for the decline of Storgata from being the main shopping street of Oslo to a dull back ally is much more complex than fences and tram tracks.



**Figure 9.28:**

*Storgata in Oslo, ones the main shopping street, now a public transport route.*

## **Summary**

The seven arenas with low architectural attractiveness have all, except Biskop Gunnerus gate, a medium social performance ratio, meaning that a relatively high proportion of the transport pedestrian actually perform some sort of social street activity within the streets. Thus, one might conclude that low architectural attractiveness do not totally restrain people from making a brake, to sit or stand just long enough to be plotted. Though, whether an improvement of the aesthetical environment had encouraged more people to perform social street activities is a matter of speculation.

## 9.5 Summary Conclusion Hypothesis 2

Sections 9.4.1 to 9.4.3 provide a conclusion for the four variables of architectural attractiveness in order to confirm or refute the presented hypothesis 2:

***Architectural attractiveness contributes insignificantly to social street activity.***

Table 9.14 below present a summary of the dependent variables “Social Street Activity” and “Social Performance Ratio” excluding “Pedestrian Intensity”:

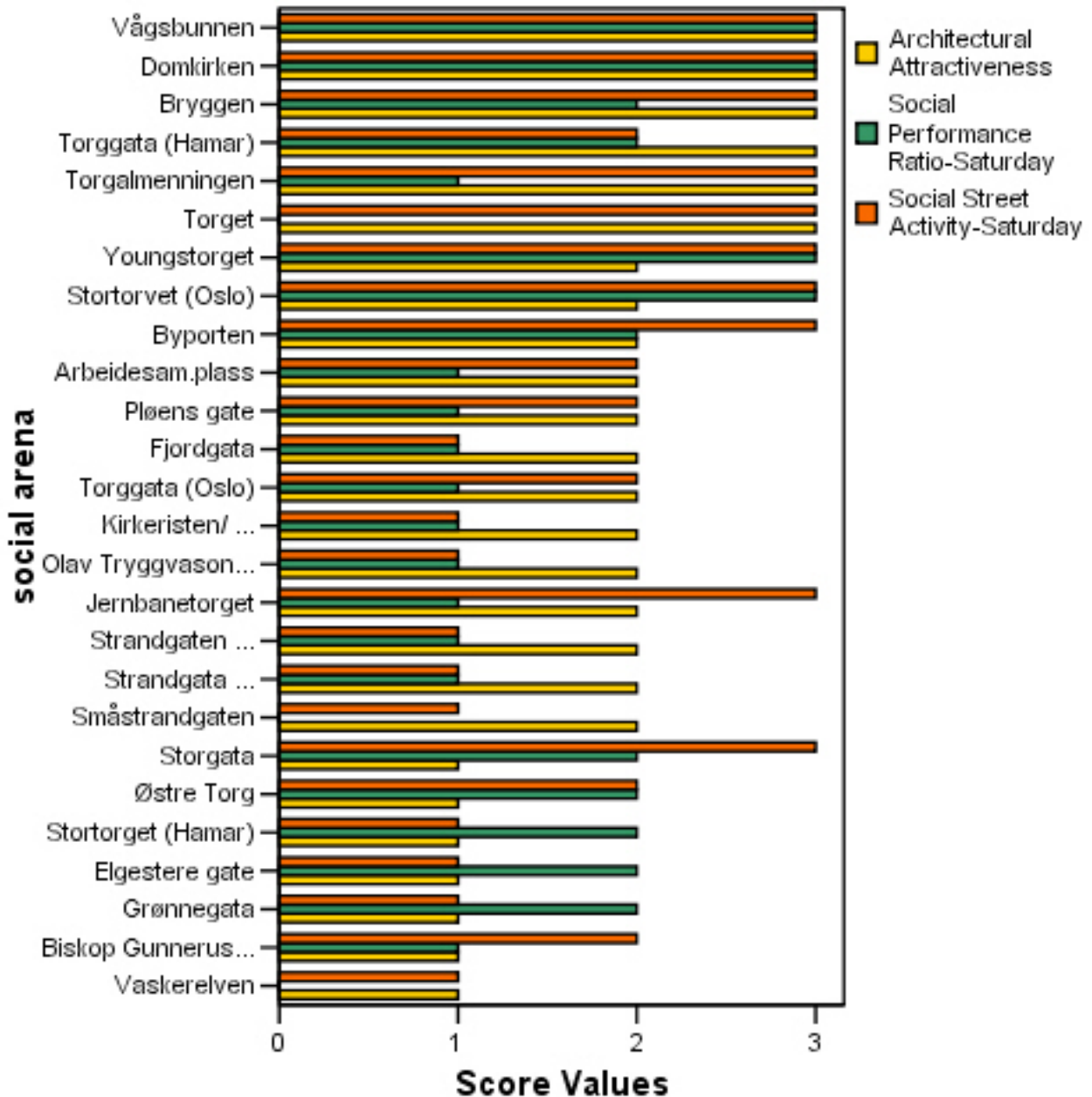
SOCIAL ARENA  - Arenas in bold is selected for analysis - Arenas in normal is not selected for analysis	I ARCHITECTURAL ATTRACTIVENESS 1: Low 2: Medium 3: High	D SOCIAL STREET ACTIVITY		G SOCIAL PERFORM. RATIO	
		Sat / Tues		Sat / Tues	
<b>Vågsbunnen</b>	3	3	3	3	3
Domkirken	3	3	2	3	3
<b>Bryggen</b>	3	3	2	2	2
<b>Torggata (Hamar)</b>	3	2	1	2	2
<b>Torgalmenningen</b>	3	3	3	1	2
Torget	3	3	3	-	-
<b>Youngstorget</b>	2	3	2	3	3
<b>Stortorvet (Oslo)</b>	2	3	2	3	3
Byporten	2	3	3	2	2
Arbeidersam. plass	2	2	2	1	2
Pløens gate	2	2	2	1	2
<b>Fjordgata</b>	2	1	1	1	2
<b>Torggata (Oslo)</b>	2	2	1	1	1
Kirkeristen/ Storgaten	2	1	1	1	1
<b>Olav Tryggvasons gt</b>	2	1	1	1	1
Jernbanetorget	2	3	3	1	1
<b>Strandgaten (Bergen)</b>	2	1	1	1	1
<b>Strandgata (Hamar)</b>	2	1	1	1	1
Småstrandgaten	2	1	1	-	-
<b>Storgata</b>	1	3	2	2	2
<b>Østre Torg</b>	1	2	1	2	2
<b>Stortorget (Hamar)</b>	1	1	1	2	2
Elgsetergate	1	1	1	2	2
Grønnegata	1	1	1	2	1
Biskop Gunnerus gt	1	2	2	1	1
Vaskerelven	1	1	1	-	-

**Table 9.14:**  
*Summary of the relationship between Motorized Traffic Volume and, Social Street Activity and Social Performance Ratio*



**The street as an extended road notion**  
 Part D: Analysis and Conclusion (Chapters 8 & 9)

Figures 9.29 and 9.30 below are another illustrations of Table 9.14 in data-base format derived from SSPS:



**Figure 9.29:**

Summary of the relationship between **Architectural Attractiveness**, **Social Street Activity** and **Social Performance Ratio** starting with score values 1-3 on Saturdays:

1: Low architectural attractiveness

2: Medium architectural attractiveness

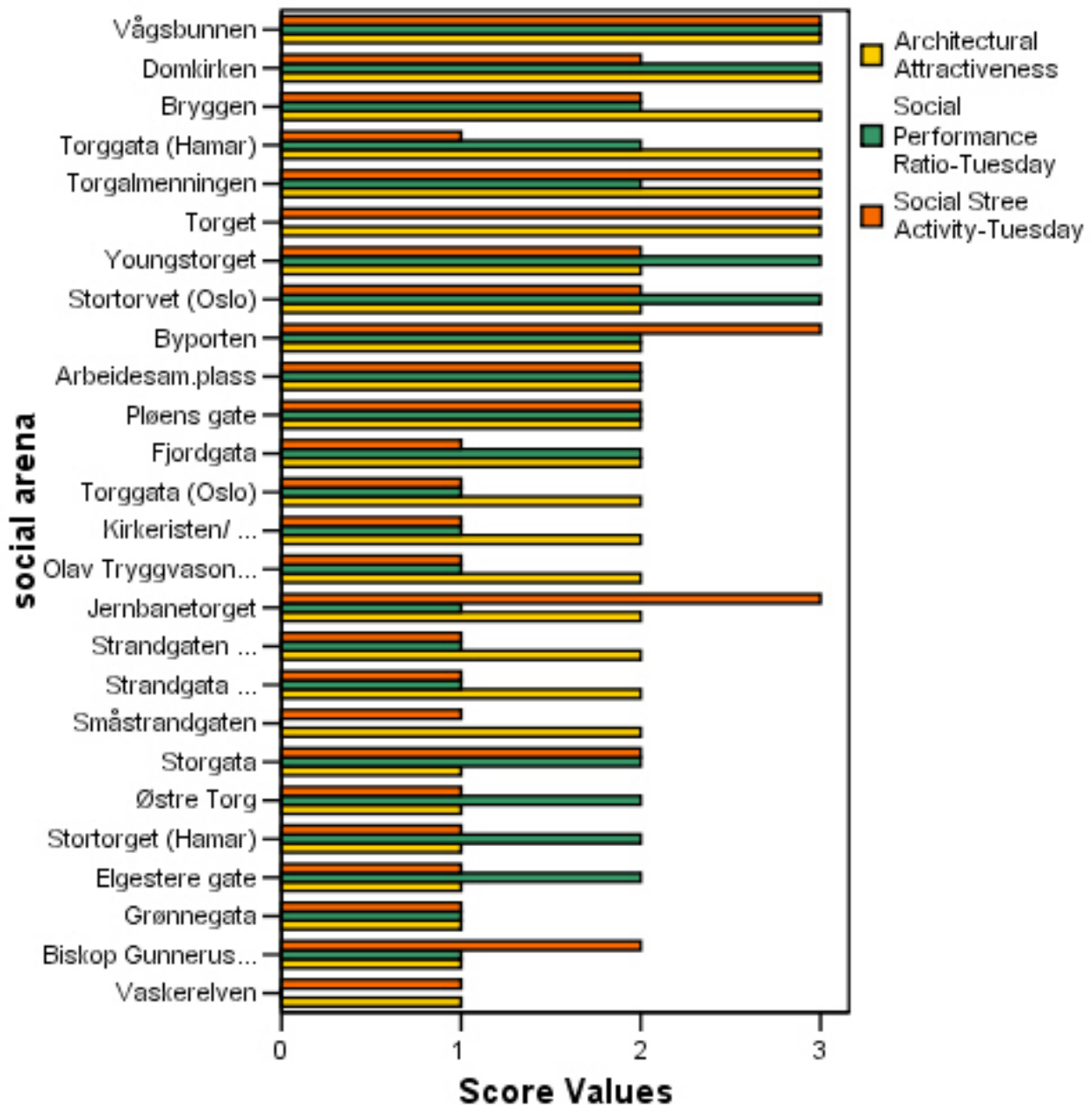
3: High architectural attractiveness

Only Motorized Traffic Volume has 4 as a score indicating a very high volume (3+).

Some arenas have no registration for Social Street Activity and Social Performance Ratio.



**The street as an extended road notion**  
 Part D: Analysis and Conclusion (Chapters 8 & 9)



**Figure 9.30:**

Summary of the relationship between **Architectural Attractiveness**, **Social Street Activity** and **Social Performance Ratio** starting with score values 1-3 on Tuesdays:

- 1: Low architectural attractiveness
- 2: Medium architectural attractiveness
- 3: High architectural attractiveness

Only Motorized Traffic Volume has 4 as a score indicating a very high volume (3+). Some arenas have no registration for Social Street Activity and Social Performance Ratio.

***The street as an extended road notion***

Part D: Analysis and Conclusion (Chapters 8 & 9)

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Evidently, the architectural attractiveness is similar both Saturdays and Tuesdays as the social street activity and the social performance ratio differs over the day and over the week. However, the results for Saturdays and Tuesdays are rather similar, although there is, not surprisingly, more social activity on Saturdays. In confirming or refuting the hypothesis 2, the results are somewhat more unambiguous than the case for motorized traffic. It is a certain tendency that there is a relation between architectural attractiveness and social street activity, Vågsbunnen and Torget being the most striking examples. Furthermore, the arenas with low architectural attractiveness have generally low social street activity. However these arenas, being Storgata, Østre Torg, Stortorget (Hamar), Grønnegata and Elgseter gate, have a medium social performance ratio. Additionally, most arenas with a medium architectural attractiveness have both low social street activity and social performance ratio. Consequently, the above mentioned tendency is far from explicit.

Thus, from the registrations, the analyses and the closing arguments derives the final conclusion that hypothesis 2: “architectural attractiveness contributes insignificantly to social street activity” **is refuted**, although this conclusion is far from definite.

An architecturally attractive social arena generates social street activity in two ways: firstly fulfilling the need of human beings to surround themselves by a pleasant built environment, secondly attracting commercial and cultural offers that is a condition for the performance of social street activity. A common acknowledged assertion is that if the offers are sufficient to attract people, the offers and the people are the main generators to invite social street activity. In this context architectural attractiveness might be regarded as an offer and not only as pleasant sceneography for the art of social activity performance.

***The street as an extended road notion***

Part D: Analysis and Conclusion (Chapters 8 & 9)

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**Part E:**  
**SYNOPSIS**  
**&**  
**RECOMMENDATION**

***The street as an extended road notion***

Part E: Summary and Recommendation (Chapters 10 & 11)

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Part E “Synopsis and Recommendation” is a summary of the conclusion in part D and a recommendation about how the result and the methodology used can be used in practical street planning and design. The latter is an attempt to fulfill one objective of this thesis namely, how social activity might be implemented in street planning. The part is divided into two Chapters:

- Chapter 10: “Synopsis”, presents:
  - A brief summary of the study area assessment, being some subjective reflections of the local analyses (Section 10.2)
  - A summary of the analytical conclusions of the registration analysis in Chapter 9 (Sections 10.3 & 10.4).
  - An assessment of how these conclusions compare to the relevant theories presented in Chapter 3, Part B (Section 10.5).
  - An assessment of the methodology used compare to the relevant methodologies presented in Chapter 3, Part B (Section 10.6).
  - An assessment of an occasional selection of main streets worldwide to determine the factual relevance to the registered conclusion (Section 10.7).
- Chapter 11: “Recommendations”, presents:
  - An assessment of the applicability of the UL program methodology as a general methodology to attain premises for street design, or in fact a proposal for a methodology for street planning (Sections 11.2 – 11.4).
  - An assessment of the applicability of the UL methodology to appraise social street activity (Section 11.5).
  - An presentation of factors that generate social activity derived from this thesis (Section 11.6), and finally
  - An presentation of local challenges (Section 11.7).

# **Chapter 10**

## **SYNOPSIS**

### **10.1 Preface**

Chapter 8 of Part D analyzed the data presented in Chapter 7 (Part C) in order to confirm or refute the two hypotheses presented in this thesis:

- 1. *A motorized traffic volume does not restrict social street activity.***
- 2. *Architectural attractiveness contributes insignificantly to social street activity.***

Chapter 10 represents a synopsis of the conclusions presented in Chapter 9. The synopsis is divided into six sections:

- Section 10.2, presents a brief and general discussion of the relationship between the conclusions of this thesis and the result of the UL program.
- Section 10.3, presents a summary of the local conclusions of the registration analysis in Chapter 9 with regard to motorized traffic.
- Section 10.4, presents a summary of the local conclusions of the registration analysis in Chapter 9 with regard to architectural attractiveness.
- Section 10.5, presents a summary of how the conclusions compare to the relevant theories presented in Chapter 3, Part B.
- Section 10.6, presents a brief assessment of the methodology used compare to the relevant methodologies presented in Chapter 3, Part B.
- Section 10.7, presents a brief assessment of an occasional selection of main streets worldwide to determine the factual relevance to the conclusion of this thesis.



## 10.2 UL program Assessment Summary

### 10.2.1 Youngstorget / Stortorvet (Oslo)

#### Youngstorget

The UL- program and the analysis in chapter 8 indicates that Youngstorget has obtained a social significance, occupied by people who appreciate the spacious, well-rehabilitated urban setting without motorized traffic. However, the social street activity of the square during the UL registrations and today hardly meets the expectations of the city administration and their aim to convert it from a large parking area and an arena for political gatherings, into a blooming swarming social arena. The spacious urban square offers space for additional people beyond the registered visitors. This has several causes as also the Oslo-report points out:

- Firstly, the “new” square had by the registrations, not yet found its position as a natural social arena besides organized gatherings. The square is well suited for large arrangements and during the time of the study there were different types of public events arranged every weekend. These events attracted many people who failed to appear during the workdays without particular arrangements. This situation is equally dominant today, 10 years subsequent to the registration.



**Figure 10.1:**

*An invitation to use Youngstorget by the project “Et levende Youngstorg” (“A living Youngstorg”).*

### ***The street as an extended road notion***

Part E: Summary and Recommendation (Chapters 10 & 11)

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- Secondly, the new establishments at the “Basarene” and within the market square have not been recognized.
- Thirdly, the surrounding buildings do not generate much social activity as most of them are purely office blocks and the few shops located in the ground floor are, for some reason, experiencing a depression.
- Fourthly, there is little entertainment and cultural activities within the square, and the cinema center in Torggata and especially the adjacent Opera seem to generate insignificant social activity within the square itself. However, some public events have been arranged subsequent to the UL program, a great initiative to promote Youngstorget as a social arena (Fig 10.2).



**Figure 10.2:**  
*Youngstorget as a rock concert arena.*

## **Stortorvet**

Stortorvet can hardly be described as a social arena despite the presence of an outdoor café located on the west side of the inner square, its historical importance manifested by the statue of King Christian IV, a pleasant building environment and finally the north façade with a wide pavement not even offering seating to provide tram and bus queers adequate waiting facilities.

With regard to social activities, Stortorvet has potentials but might rightly be described as an urban space of lost opportunities. As the Oslo report describes,

***The street as an extended road notion***

Part E: Summary and Recommendation (Chapters 10 & 11)

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Stortorvet was rehabilitated as a flower market 15 years ago. Since then the flower trade has found more lucrative markets and what used to be the main attraction of the square has no longer any significance. As previously described, Stortorvet represents a well defined urban space. Despite this architectural quality, the square does not attract much social activity. There are several reasons for this:

- Firstly, the four streets surrounding the square prevent an easy access between the inner core of the square - the flower market – and the adjoining pavements/ “Domkirken”.

- Secondly, the surrounding buildings are mostly, except the cathedral, department stores with very few entrances providing a restricted accessibility between the surrounding building and the pavements. Consequently, the contact between the three main activity arenas within the square: the surrounding buildings, the pavements and the inner market are limited. Such contact is regarded by this thesis as a condition for obtaining optimal social street activity.

- Thirdly, based on a personal assertion without any empiric foundation, the attempt to create a catering facility in the market has failed partly due to the type of establishment and partly due to its location in the immediate nearness of Karl Johans gate (with numerous offers).

- Fourthly, the relatively heavy traffic that is characterized by motorized traffic in desperate search of a free parking space or in a desperate search to find an easy way out of the apparent traffic chaos.

As the Oslo report points out, good areas for people to stop and stay always generate social activity. However, such good areas, that provide feasible seating and other street furniture that facilitates the possibility of rest are scarce. The best social arenas, according to the Oslo report, exist where conscious planning and design mean that the buildings and the adjacent outdoor zone constitute an entirety both functionally and aesthetically. The mentioned Domkirkeparken is the only arena in the study area in Oslo with such qualities. However, such activities are dependent upon season, being frequently occupied during spring, summer and autumn but basically derelict during the winter season.

## 10.2.2 Torggata/ Storgata (Oslo)

The character of Storgata and the part of Torggata presented here (the pedestrian part between Youngstorget and Stortorvet) is very different. As Torggata is a 100% pedestrian zone, Storgata is a multifunctional street with many chain shops, car traffic (although relatively modest) and a dominant public transport including trams and buses located in separate lanes. The public transport accessibility in Storgata is as good as it is poor in Torggata. The pedestrian use in Storgata is reflected by the fact that it represents an extension of Jernbanetorget, being a part of the pedestrian route to its neighboring areas from Jernbanetorget. Torggata, however appears, although located parallel to Storgata, as an isolated urban space with few accidental visitors of the category “passing by” besides those using it as a transport route between Stortorvet and Youngstorget. The functional characteristics of Storgata and Torggata are clearly indicated in the registrations of “social intent” and “social factor”. Both parameters reflect the multi-functionality of Storgata and the particularity of Torggata being an area for intentional activities.

### Torggata

However, the registered “social activity” indicates that Torggata, in contrast to Storgata, has a certain mentionable social activity, although to a lesser extent that might be expected after being converted from a car traffic zone into a pedestrian route a decade ago with the supposed intent to transform it into a livable street. There are several reasons why this intention has not been fulfilled:

- Firstly, and already mentioned, the fact that the whole street (between Stortorvet and Youngstorget) in fact represents one building block with modest accessibility to the two parallel streets Storgata and Møllergata, generating limited social activity from adjacent streets.
- Secondly, the fact that the street is narrow offering modest space for social activity and allowing little sunlight to penetrate down to the street floor. The lack of physical facilities that could have generated social activity, emphasize the impression that Torggata has been planned as a pedestrian route, not as an arena that encourages social activity and staying. This confirms the general assertion by some

that pedestrian streets are designed foremost to offer the public feasible access to shops rather than being arenas for social gatherings.

## **Storgata**

Storgata has experienced a transformation in use and in social status during the last four decades. From being the main shopping street in Oslo during the 1960s (as previously described in Part B) it now has become an insignificant shopping arena basically for the local citizens. This change is due to several conditions:

- Firstly, the establishment of Aker Brygge (next to the City Hall) has transferred the core of the city center of Oslo to the west and provided an attractive shopping arena ousting the commercial facilities in Storgata.
- Secondly, this transformation has caused a change in the demographic conditions in that the surrounding area (Grønland) now is predominantly occupied by second generation immigrants affecting the social behavior and urban culture in the area.
- Thirdly, the establishment of Oslo City (within the study area) and Byporten (just outside the study area) has polarized the commercial activity in the area leaving Storgata as a back alley.
- Fourthly, the mentioned segregation measures for the tram in Storgata has restricted the accessibility for pedestrians to cross the street and affected the total visual impact of the street space negatively.
- Finally, the symbolic, social, functional and traffic transformation during the last 40 years, has created a negative “spiral” affecting the total aesthetic impression negatively by the lack of new establishments and a lack of maintenance of the existing buildings and general street space.

### **10.2.3 Olav Tryggvasons gate/ Fjordgata (Trondheim)**

Trondheim has only three study areas: Elgeseter gate, Olav Tryggvasons gate and Fjordgata. They are all multifunctional streets with car traffic, shopping and cultural offers. However, while Elgeseter gate and Olav Tryggvasons gate have a major transport function, Fjordgata is less significant as a transport route. The results for the three streets are very similar, although Elgeseter gate has the lowest activity level. This is not surprising; in fact it is surprising how high the social street activity level actually is compared to Olav Tryggvasons gate and Fjordgata. The fact that there are registered the approximate same amount of social street activity during the summer season for both streets generates some questions: why does Olav Tryggvasons gate attract so many pedestrians and why do not more visitors stop for a break, and furthermore: why does Fjordgata attract so few visitors and why do so many of them stay?

- Firstly, both the social intent, the social comfort and the social duration registered for both streets are very similar and do not give any clues towards the reason for visit. The registered social factors, however, indicate that Olav Tryggvasons gate provides a wider offer than Fjordgata such as the possibility of meeting people (due to the simple fact that there are many people) and the accessibility of public transport.

- Secondly, as the Trondheim report points out, Olav Tryggvasons gate is attractive to the public due to its central location along the main transport route through the city of Trondheim and above all due to its varied offers of shops (mostly chain shops), catering and culture (a major cinema center). The type of offers provided in Olav Tryggvasons gate is independent of season as the study clearly indicates. The street has the approximate same level of social activity during both summer and winter. This does not correspond with the situation in Fjordgata which has the same social activity level as Olav Tryggvasons gate in summer, but a 43% drop during the winter season. This might be explained by the same arguments applied to Olav Tryggvasons gate. Most offers in Fjordgata are dependent upon



***The street as an extended road notion***Part E: Summary and Recommendation (Chapters 10 & 11)

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season; this apply especially to the social magnet Ravnkloa that besides being a fish market also offers a unique setting for social gatherings during summer.

- Thirdly, Olav Tryggvasons gate is, as indicated above a busy street most of the day and most of the year. However, after having completed their H&M shopping and disposed a double Whopper at the local Burger King, people leave by the first bus or even take a stroll down to Ravnkloa to experience the lively fish market. As the Trondheim report rightly emphasizes, Olav Tryggvasons gate is narrow with heavy traffic providing inadequate pavements space purely offering room for strolling and limited possibilities for out-door leisure facilities to establish themselves. Olav Tryggvasons gate is foremost a transport route both for cars, bikes and pedestrians.

- Fourthly, although being situated parallel to Olav Tryggvasons gate, Fjordgata does not have the same central location (at least not mentally) that is a generating factor for attracting people. Fjordgata is in fact, as previously stated, a back alley. The recently rehabilitated Ravnkloa, with a sunny location protected from car traffic, has been mentioned as an important factor for social activity. But such activity has been registered so far from Ravnkloa that other factors seem to be effective. According to the Trondheim report the architectural characteristics of the buildings (described earlier), good parking facilities and above all wide pavements contribute to occasional stay. Consequently, Fjordgata offers relatively good physical conditions, moderate environmental strains, good accessibility and a good trade market that is claimed to be a more important asset by interview objects than is the case for Olav Tryggvasons gate. However, the total impression of Fjordgata does not give associations towards a social arena. Apart from Ravnkloa, no effort has been made to create such social arena although the potentials are immense for transforming Fjordgata into a unique setting for recreational use.

The two most interesting examples in the UL-study of so-called multifunctional streets with a certain amount of traffic are Olav Tryggvassons gate and Fjordgata in Trondheim with 12 000 AADT and 13 000 AADT respectively. One might state that this motorized traffic volume is relatively modest. There is, however, a high proportion of heavy through traffic in Olav Tryggvasons gate making the presence of motorized traffic particular evident. According to Part C, Olav Tryggvasons gate has a

***The street as an extended road notion***Part E: Summary and Recommendation (Chapters 10 & 11)

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pedestrian volume of approximately 600-700 persons an hour and a varied social duration (0-10 min on Saturdays and 11-30 min on Tuesdays as highest scores and with the categories 31-60 min and 1-3 hours included within the 95% of the total registration). This fact rejects such allegation although the social activity in Olav Tryggevassons gate is relatively modest.

So, heavy traffic does not seem to restrict people from visiting Olav Tryggevassons gate, but it might be a contributing factor in restricting them from staying longer than the necessary shopping requires, though there is no evidence in the data to suggest this. Such allegation is supported by the Trondheim report that ascertains that the traffic in Olav Tryggevassons gate does not have any affect on the pedestrian traffic but might restrict stays and activity beyond shopping.

## **10.2.4 Vågsbunnen/ Strandgaten (Bergen)**

Vågsbunnen and Strandgaten are two very different streets as described above. As Strandgaten is the ultimate shopping street, Vågsbunnen is the typical strolling arena with a mix of commercial and cultural offers. Registrations (Chapter 7) show that Vågsbunnen has a far less intensive pedestrian intensity than Strandgaten both summer and winter regardless of day of the week, while Strandgaten has approx 15% of the social street activity of Vågsbunnen in summer both Saturdays and Tuesdays. The social activity in Strandgaten seems to be similar for summer and winter registration, while the social activity in Vågsbunnen is approximately four times as intensive as during winter. Consequently, Vågsbunnen is definitely the social arena of the summer as Strandgaten has a constant social activity despite of time of the week and time of the year.

### **Vågsbunnen**

The social intent of the two streets is similar but there is a tendency that the visitors of Vågsbunnen are passing by, enjoying the picturesque environment, the presence of people and the accessibility of public transport and decide to stay, not for long, but

long enough to be registered. The result presented in this thesis corresponds by the observation by the Bergen-report claiming that Vågsbunnen is a “transit area” <sup>E1</sup> during summer and a so-called “destination area” <sup>E2</sup> during winter. This variation in season corresponds with both social comfort and social frequency. There are several qualities of Vågabunnen that generates visits and a subsequent social activity. The bendy and narrow medieval street structure has always appealed to people. The picturesque architecture, the presence of trees, the provision of benches for seating, well designed out-door lighting and the best catering offer and the best pedestrian accessibility of the whole Bergen study-area attract visitors to make a halt on their passing by route. The area has the potential of being a “goal area” on the basis of its specific character and varied offers.

## **Strandgaten**

The intent of the users of Strandgaten is shopping but the street is also used as a passing byroute. Very few of the latter categories seem to stop, however. Most visitors to Strandgaten appreciate the commercial offers and the openness of the street but after finishing their intentional shopping they seem to vanish elsewhere. Strandgaten is described by the Bergen-report as a “goal area” (as defined above). Most people are visiting this street for the purpose of shopping although “leisure” and “passing by” also characterize the social intent. As the commercial offer is excellent with a high proportion of chain shops, the service offers are poor. The architectural quality is high although much different from Vågsbunnen. The homogeneous architectural presented by neo-classicistic style, materials and buildings height gives the street a distinct, international visual impression that is appealing to most. The street itself is narrow providing limited pavement space and little street furniture (including benches), probably two contributing factors for the lack of social activities. An intensive street rehabilitation program completed during 2005 has to a large extent enhanced this apparent shortcoming. However, there is no evidence to imply that the social street activity has increased. Hopefully a future registration will provide

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<sup>E1</sup> A “transit area” is described as an intermediate area visited in the purpose to reach another destination.

<sup>E2</sup> A “destination area” is described as an area visited for a specific purpose.

***The street as an extended road notion***

Part E: Summary and Recommendation (Chapters 10 &amp; 11)

such evidence. Though, new types of commercial services (such as for instance a hairdresser) have been established subsequent to the rehabilitation, suggesting that Strandgaten is less dependent upon chain stores to attract visitors.



**Fig 10.3:**  
*Strandgaten in all its glory after the rehabilitation.*

### **10.2.5 Bryggen/ Torgallmenningen (Bergen)**

Bryggen and Torgallmenningen are both, as repeatably described, urban spaces of unique quality and reputation. The city center of Bergen has little or no significance as a leisure and holiday object during winter. Particularly Bryggen and Torget are typical summer tourist attractions, although the restaurants seem to be catering at full capacity on an annual basis. Furthermore, Bryggen seems to be an attractive spot for strolling at all seasons, but its position as a leisure and cultural scene seems to be a summer phenomenon. One has to bear in mind that Bryggen as a transport route leads to few attractions- the most important Håkonshallen (a medieval city hall) is a typical magnet for summer tourism.

***The street as an extended road notion***

Part E: Summary and Recommendation (Chapters 10 & 11)

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Torgallmenningen has a relatively high frequency of use both summer and winter. This can be explained by its unique position within the city center of Bergen. The square has previously being described as the most magnificent urban space in the country. This assertion is highly subjective. However, Torgallmenningen is the cultural and symbolic core of Bergen, the spot where the mayor performs the 17th May speech <sup>E3</sup> and where extraordinary social and cultural gatherings are performed. Torgallmenningen is the natural setting for different types of events and a leisurely stroll during all seasons. Besides being an urban space of architectural excellence, recently being rehabilitated to a high aesthetical level, it offers a wide range of services and shops and probably above all: its geographical setting is unique as a natural bypass between the city hall, the railway station, the bus terminal, the concert hall and Torget and Bryggen.



**Figure 10.4:**  
*Arrangements at Torgallmenningen usually attracts large crowds, here during a dancing event.*



**Figures 10.5:**  
*The waste space of Torgallmenningen might appear derelict without necessary crowds.*

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<sup>E3</sup> *The 17th of May- the celebrated Norwegian national day.*

The wide range of qualities characterizing Torgallmenningen makes it a unique case for studying urban social life, especially knowing the fact that the social activity is relatively low according to the conclusions in this thesis. Unfortunately there are no available registrations subsequent to the rehabilitation, although one might assume that the square has become the natural arena for events illustrated by Fig 10.4. The contrast to Fig 10.5 (illustrating the new Torgallmenningen with the much discussed baldachin by the artist Bård Breivik) is, however, striking confirming the conclusion of the thesis.

### **10.2.6 Stortorget/ Østre Torg (Hamar)**

Stortorget and Østre Torg are the two main squares in the town of Hamar. The two squares represent the end-points of the commercial “cord” within the city. Although the Hamar report describes Østre Torg a well defined urban space with a physical environment of relatively high quality and Stortorget as a manifold urban setting, it seems that the town administration has put little effort into creating a square that the inhabitants proudly can present to foreign visitors, a physical and mental heart of the city and a natural location where the mayor might present the 17<sup>th</sup> May speech.

The architecturally characteristics of the squares leave the expression that they are a result of an urban SLOAP <sup>E4</sup> rather than a consequence of conscious planning. Studying the plan of inner town of Hamar, Østre Torg is in fact the result of an undeveloped building block within the quadrature structure of the centre. Stortorget, however, has an important urban setting on the axis between the cathedral (by status, not by size) and the so-called “Basarbygningen” (“the Bazaar Building”) but the type and height of the surrounding buildings do the well proportioned two-dimensional planning little justice as the square has a visual impression of an underdeveloped wasteland, to put it to the extreme, rather than a true urban space. The architectural and symbolic contrast between Stortorget and Østre Torg and for instance Torgallmenningen in Bergen is striking. Having said that, the number of pedestrian users strolling passed Østre Torg is surprisingly high and the result of the

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<sup>E4</sup> SLOAP: Abbreviation of “Space Left Over After Planning”



social factor-parameter confirm that the interview objects, basically locals, regard both Stortorget and Østre Torg as both open and above all intimate.

Shopping is registered as an important reason for visit although there are many visitors (interview objects) that are passing by on a Saturday stroll occasionally stopping enjoying a brake at one of the too few catering facilities. Østre Torg has a high pedestrian use (above 2000 an hour at noon Saturday), but it is reason to believe that a high proportion of these visitors are generated from Torggata that is the true social arena of Hamar. Neither Østre Torg nor Stortorget are so-called “destination areas” (as described in Section 6.2.4) by their own capacity. The vegetable and fruit market, the cinema and the library are the generating factors for social activity at Stortorget (cultural offers are highly appreciated as a social factor); the closeness to Torggata is probably the main asset of Østre Torg having surprisingly few attractions, commercial or services, to offer.

After the completion of the study a major department store has been opened in Torggata as a part of Østre Torg. This has hopefully provided a vital boost to the social life in the square. Such and similar initiatives are important to implement to secure the commercial survival of the city center of Hamar as part of the competition against the two major shopping malls located so close to the city center that they actually represent a severe threat to the commercial market of the latter area. Both Stortorget and Østre Torg have great potential as urban spaces and social arenas but this potential has to be acknowledged. An even more severe omission is the neglect of “Triangeltomta”, the ultimate urban square in the core of the commercial string delimited by the more official squares in question.

### **10.2.7 Torggata/ Strandgata (Hamar)**

Torggata and Strandgata are the two commercially significant streets of Hamar. Their function is very different, however. Strandgata is foremost a transport artery, but Torggata is a social and commercial arena. If there is a lack of effort to create a true urban square in the city center of Hamar, the town administration has truly invested in

***The street as an extended road notion***Part E: Summary and Recommendation (Chapters 10 & 11)

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the rehabilitation of Torggata that has become the urban arena for socializing and strolling. Here you find a wide range of shops and service offers as previously described. Torggata is definitely a “goal area” by its own capacity as Strandgata is a so-called “thoroughfare area”, indicated by the registered social intent parameter results. As Torggata is the natural place for leisurely activities, shopping, café visits and shopping, Strandgata is a place to shop for special items on a Saturday stroll that probably has included Torggata in the first place. However, visitors seem to appreciate the intimacy of both streets. This intimacy manifests itself architecturally very differently as Torggata is a relatively narrow and symmetric street and Strandgaten is a so-called “boarder-street” with buildings on one side and a park on the other where trees representing the enclosing wall. Furthermore, in Torggata the visitors seem to appreciate its nice buildings (a matter of subjective opinion) and the possibility of peace and quiet and the visitors of Strandgata value the presence of people. The social activity in Torggata is as could be expected after the completion of the rehabilitation program with the aim to produce a social arena. The total lack of social activity in Strandgata is equally predictable, as no effort has been made to promote such activity.

The potential of Torggata as a social arena seems to be fulfilled. This is not the case of Strandgata, however. Strandgata is now being proposed rebuilt into a dual carriageway. Its potential is associated with an increase in pavement widths, establishments of offers that might generate social activity and a stronger link to Strandgateparken (a green belt dividing the street and the railway- as many cities Hamar is deprived a direct contact with the lake shore by an inevitable railway track). In a future situation where the railway is removed from its present location, Strandgata might become a magnificent promenade representing an important connection between Lake Mjøsa and the city center.

## 10.2.8 Final Reflections

Chapter 6 and the four study reports, provide strong indications that no quantifiable conclusions can be drawn to suggest that there is a relationship between social activity and physical quality, described as the character of buildings, street covering, street furniture, vegetation and the standard of maintenance. However, this research shows that such qualitative factors are difficult to quantify as they are general and highly subjective. There are several methods for assessing architectural quality that might have provided a more accurate result than the method used in this project, but these methods require empiric research beyond the scope of this thesis.

The results provided by the UL-project support the represented hypothesis stating that the physical appearance and aesthetical quality of the urban space does not represent the sole generating factor for social activity. Furthermore the results strongly indicate that there are undoubtedly different factors that are decisive for how and why such activities take place. Consequently, there seems to be enough evidence to suggest that planners of social arenas, including architects and landscape architects, have to consider a wide specter of planning premises to create true social arenas. However, it cannot be emphasized enough that high architectural quality always has to constitute the basis of all physical implementations and enterprises including street design. Furthermore, a conscious design includes far more than the implementation of good aesthetical expression, and might supply a physical element with an augmented status and symbolic value; the transformation of Postgirobygget, previously mentioned, being an illustrative example.

The study area with the highest traffic volume in the study by far is Torget in Bergen with 26 000 AADT. However, the heavy traffic and the human activity are well separated though the traffic represents a major barrier for the physical link between Torget and Vågsbunnen for both pedestrians and cyclist. It is therefore difficult to recognize to what degree the traffic actually influences the social activity in one of the most sought after arenas in Bergen. What the registration does confirm, however, is that the performers of social activities in Torget, mostly "sitting in café" or executing

***The street as an extended road notion***Part E: Summary and Recommendation (Chapters 10 & 11)

---

“different types of activity”, do this despite the 26 000 cars (AADT) at close range. There is reason to believe that the same social activity would have occurred independent of the unpleasant and alien “New Jersey elements” that constitute the physical barrier against cars.

Motorized traffic has been given little attention as a restricting factor towards social activity in the four study reports. The Bergen report emphasized that cars represent a barrier in some areas and reduce the freedom of movement for instance in street crossings. The Trondheim report mentions that the heavy traffic in Elgeseter gate causes its pedestrians and cyclists to select alternative routes. However, the modest cycle and pedestrian traffic the Elgeseter gate is mainly due to the fact that most of this traffic actually is diverted to a parallel street to Elgester gate.

In Oslo, the traffic is modest and Stortorget is the only arena that is said to benefit from a different traffic pattern. In Hamar, Strandgata is used as an example of how heavy traffic (together with narrow pavements) can restrict social activity; thus there is no evidence to propose to what extent. Consequently the UL-study provides limited data to support or disprove the second hypothesis of this thesis. However, the fact that public spaces with relatively heavy traffic (Olav Tryggvasons gate in Trondheim and Torget in Bergen are presented as feasible cases) attract many people who seem to return frequently, suggest that car traffic does not impede public use of the street, but probably reduces the duration of the use. The examples also suggest that it does not necessarily have to be a conflict between traffic and social activity provided that the planning conditions for street design have a clear aim to attend to the various needs of the users of the street. In doing so, three conditions are essential:

- How should the street be physically designed to encourage social street activity to take place?
- What functions and offers are essential for the street and the surroundings to generate social street activity?
- Does the street have sufficient accessibility?

***The street as an extended road notion***

Part E: Summary and Recommendation (Chapters 10 & 11)

---

As mentioned, traffic volume, representing a basic planning premise in road design, is a relative notion. Thus, traffic volume should be considered as part of a wide specter of planning premises to determine the design of streets. Some of these planning premises are presented and assessed in this thesis. Furthermore in urban areas it seems more feasible to use desired speed as a parameter for design rather than dimensional speed that is the prevailing practise. The parameter dimensional speed includes a traffic safety margin meaning that both roads and streets are designed for an approximately 20% higher speed than desired. In street design such practise should be avoided. One might also argue if this is a viable practise in road design. It might seem as a paradox that the most common challenge in traffic safety work is to establish speed calming measures to eliminate the 20% speed violation that was initially incorporated as an alignment parameter.

Nevertheless, a conflict between traffic and social activity must not be underestimated. It is not inevitably an aim that all streets should be multifunctional and constitute social arenas. Different streets might have different functions. It is, however, essential that the planner carefully considers street-type, the local overall conditions and the physical conditions (all as described) of the adjacent buildings and surroundings before the selection of technical solutions. Street and traffic technical solutions should be a consequence of physical and functional requirements and conditions and not the contrary. This type of recognition requires an upgrading of street planning as a profession and the invitation of a wider specter of professional participants in the planning process.

The UL program can be regarded as the first step towards a new planning strategy for streets. The aim is to strengthen the professional foundation for the choice of solutions, especially with regard to basic dimensioning of traffic implementations in relation to different type of city use. Thus the collected registrations have two purposes: first representing new and significant premises for various types of urban planning projects and second representing important empirical data for professional research work to identify the relationship between overall conditions, physical form and characteristics, various functions and the social life of streets.

***The street as an extended road notion***

Part E: Summary and Recommendation (Chapters 10 & 11)

---

Although the interplay between social life and physical settings has not been a dominating issue in the practical planning of cities and towns for the last half century, several empirical studies have been carried out and various theoretical studies have been developed internationally over the theme. In larger European cities, and in some parts of USA, the issue represents a profession of increasing interest, especially the relationship between the characteristics of physical form and human behavior; a field of interest where architecture and social science as professions find a common ground. Unfortunately, this does not necessarily mean that architects and sociologists actually cooperate in urban planning projects. In Denmark and Sweden several research projects and doctoral theses are being accomplished. At a purely theoretical level, very little has been done in Norway. Still, some systematic empiric studies have previously been carried out, such as in Oslo (In'by/ Gehl, 1990), in Lillehammer (as part of the 1994 Olympics) and in five villages as part of the "Environmental Street"- project carried out by the Norwegian Public Roads Administration during 1990 and 1995.



## 10.3 Analytical Conclusion/

### Hypothesis 1

In confirming or refuting the hypothesis 1 presented in this thesis stating that “a motorized traffic volume does not restrict social street activity”, the following conclusions about the five motorized traffic volume categories were presented:

#### - Very High Motorized Traffic Volume (> 20 000 AADT)

The analysis of the two arenas with very high motorized traffic indicates “*that pedestrian traffic and social street activity might very well occur, especially if the social arenas are attractive functionally and architecturally. It is, however, important that motorized traffic and social street activity have feasible physical conditions to operate sufficiently, preferably separately, but this is not necessarily a premise.*”<sup>E5</sup>

#### - High M Medium Motorized Traffic Volume (8 000 – 20 000 AADT)

The analysis of the seven arenas with medium motorized traffic indicates that “*the registrations indicate that a high motorized traffic level has a certain negative effect on social street activity. However, if the presence of motorized traffic is diminished by rerouting or measures are implemented to reduce speed, a high motorized traffic volume as defined might not be a vital factor to restrict social street activity.*”<sup>E6</sup>

#### - Medium Motorized Traffic Volume (5 000 – 8 000 AADT)

The analysis of the four arenas with medium motorized traffic indicates that “*medium motorized traffic volume does not affect social street activity positively or negatively.*”<sup>E7</sup>

#### - Low Motorized Traffic Volume (1 – 5 000 AADT)

The analysis of the four arenas with low motorized traffic indicates that “*a low motorized traffic volume does not necessarily promote social street activity.*”<sup>E8</sup>

#### - Zero Traffic Volume

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<sup>E5</sup> Section 9.3.1, p

<sup>E6</sup> Section 9.3.2, p

<sup>E7</sup> Section 9.3.3, p

<sup>E8</sup> Section 9.3.4, p

***The street as an extended road notion***Part E: Summary and Recommendation (Chapters 10 & 11)

---

The analysis of the eight arenas with no motorized traffic “*invalidates the myths stating that no motorized traffic is the prime generating factor to promote social street activity. A car free environment is undoubtedly a strong contributing factor to encourage people to stay but other factors are equally important.*”<sup>E9</sup>

The registrations in Chapter 7, the analyses in Chapter 8 provide facts that social street activity does not necessary occur in car free arenas such as pedestrian streets (Torggata in Oslo), but might occur in arenas with very high motorized traffic volume (Torget in Bergen). Concurrently, the reverse results have been registered, being exemplified by Vågsbunnen in Bergen (no motorized traffic and an extreme high level of social street activity) and Elgesetergate in Trondheim (with a very high level of motorized traffic and a low social activity). Thus, from the above conclusions in Chapter 9 the final conclusion is derived that hypothesis 1: “a motorized traffic volume does not restrict social street activity”, **is neither confirmed nor refuted.**

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<sup>E9</sup> Section 9.3.5, p

## 10.4 Analytical Conclusion/

### Hypothesis 2

In confirming or refuting the hypothesis 2 presented by this thesis stating that “architectural attractiveness contributes insignificantly to social street activity”, the following conclusions of the three motorized traffic volume categories were presented:

#### **- High Architectural Attractiveness**

The analysis of the six arenas with high architectural attractiveness *“indicates that architectural attractiveness is important to generate social street activity, but is rarely the only contributing factor. Bryggen, an international cultural heritage monument is a magnet for tourists but not necessarily for people that want to perform social streets activities; Torgalmenningen, the unique urban space of architectural splendor is in fact a transit location for the local transport pedestrians and Domkirkeparken, the present ultimate social activity retreat of Oslo ones was a derelict arena for drug addicts before the cafés were established”*. <sup>E10</sup>

#### **- Medium Architectural Attractiveness**

The result of the analysis of the 13 arenas with medium architectural attractiveness *“is not significant. Youngstorvet and Stortorvet do have a high social performance ratio, and it is reason to believe that architectural attractiveness is a contributing factor to achieve that. A main conclusion, however, is that one might expect a higher degree of social street activity in some arenas if the aesthetical quality has been improved”*. <sup>E11</sup>

#### **- Low Architectural Attractiveness**

The analysis of the seven arenas with low architectural attractiveness indicates *“that low architectural attractiveness do not totally restrain people from making a brake, to sit or stand just long enough to be plotted. Though, whether an improvement of the*

<sup>E10</sup> Section 9.4.1

<sup>E11</sup> Section 9.4.2

***The street as an extended road notion***

Part E: Summary and Recommendation (Chapters 10 & 11)

---

*aesthetical environment had encouraged more people to perform social street activities is a matter of speculation*".<sup>E12</sup>

Thus, from the registrations, the analyses and the closing arguments the final conclusion is derived that hypothesis 2: "architectural attractiveness contributes insignificantly to social street activity" **is refuted**, although this conclusion is far from definite.

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<sup>E12</sup> Section 9.4.3

## 10.5 Theoretical Conclusions/ Hypotheses 1 & 2

As described in Part B, during the last 50 years, social street life has been the subject of intensive studies and research by numerous professionals. Chapter 4 presented a relevant collection of some of these studies. With regard to assess hypothesis 1, to confirm or refute whether “a motorized traffic volume does not restrict social street activity”, this thesis interprets the presented studies as follows:

### 10.4.1 The relationship between form and culture/ Gordon Cullen

With regard to confirming or refute the two presented hypotheses, Gordon Cullen does not provide an explicit answer. The object of the theories of Cullen was, as previously described, to redefine the enclosed street not only to make it more attractive, but also to achieve an upgraded status for its social activities and possibilities. In this context lies an obvious connection between architectural attractiveness and social street activity. However in the theories of Cullen, architecture relates to the relationship of all the elements that constitute the total built environment such as buildings, street furniture, vegetation and the presence of various street users (including motorized traffic), or as Broadbent refers it, *“that just as there is an art of architecture, so there is an art of relationship, in which all elements which go to the making of an environment, buildings, trees, nature, water, traffic, advertisements and so on are woven together in such a way that drama is realised”*.<sup>E13</sup>

Thus, the theories and observations by Cullen must be interpreted in such way that an attractive built environment does effect social street activity positively, meaning that architectural attractiveness constitutes an obvious, if not significant, contributing

<sup>E13</sup> *Geoffrey Broadbent: “Emerging Concepts in Urban Space Design”, Van Nostrand Reinhold, London 1990, p 217*

***The street as an extended road notion***

Part E: Summary and Recommendation (Chapters 10 & 11)

---

factor to generate social street activity. As motorized traffic, according to Cullen, is a part of the urban scenery (as illustrated in many of his picturesque drawings, Fig 10.1 being an excellent example), one can interpret that the presence of such traffic does not necessary restrict social street activity presupposed that the traffic volume does not exceed the level permitted by the narrow and bendy urban structure favored by Cullen.



**Figure 10.6:**

*The multifunctional street of the traditional city centre with the various functional and aesthetical elements constituting the architectural whole.*

Thus, the theories of Gordon Cullen, in the physical and functional setting of his studies:

- confirm hypothesis 1: “A motorized traffic volume does not restrict social street activity”, and
- refute hypothesis 2: “Architectural attractiveness contributes insignificantly to social street activity”.



## 10.5.2 The street as vital urban organ/ Jane Jacob

In order to confirm or refute the presented hypotheses, the theories of Jane Jacobs do not provide any explicit answers. Her condition for a safe and lively street is “self-policing” in various forms, primarily by fellow street users. Consequently, the street has to be occupied to become safe; and to be occupied it has to attract people; and again, to be attractive, it has, according to Jacobs, to look “interesting”. What is an “interesting” street is a matter of subjective opinion as is also the case for the notion “architectural attractiveness”. At least, one might assume that “architectural attractiveness” is one aspect of the notion “interesting”, leading to the conclusion that architectural attractiveness to some degree contributes to social street activity by the definition of Jane Jacobs. However, Jacobs proposes in her book “The Death and Life of Great American Cities” physical measures to attain city diversity. Two of the four conditions to achieve this are:

- The need for small blocks: “*Most blocks must be short; that is, streets and opportunities to turn corners must be frequent.*” <sup>E14</sup>
- The need for aged buildings: “*The district must mingle buildings that vary in age and condition, including a good proportion of old ones.*” <sup>E15</sup>

Jacobs does not necessarily emphasize high architectural quality but describes a built environment planned to promote the presence of people, a feel of security and a public space of interest, commonly regarded as architectural attractiveness.

Thus, the theories of Jane Jacobs, in the physical and functional setting of her studies:

- do not provide any evidence to either confirm or refute the hypothesis 1: “A motorized traffic volume does not restrict social street activity”, and are
- refute hypothesis 2: “Architectural attractiveness contributes insignificantly to social street activity”.

<sup>E14</sup> Jacobs, Jane: “*The Death and Life of Great American Cities*”, Penguin Books 1994 (first published in USA by Random House in 1961), p 191

<sup>E15</sup> Jacobs, Jane: “*The Death and Life of Great American Cities*”, Penguin Books 1994 (first published in USA by Random House in 1961), p 200

### **10.5.3 How humans locate themselves in a city/ Kevin Lynch**

The methodology of Kevin Lynch is not linked to social street activity neither as associated with motorized traffic nor architectural attractiveness and is therefore unsuitable in confirming or refuting the presented hypotheses.

However, the term “imageability” used by Lynch to categorize the level of quality of physical objects does give an indication of the importance of architectural attractiveness or the subjective visual impact of the built environment termed by Jacobs as “interesting”.

Thus, the theories of Kevin Lynch, in the physical and functional setting of his studies:

- do not provide any evidence to either confirm or refute the hypothesis 1: “A motorized traffic volume does not restrict social street activity”, and are
- refute hypothesis 2: “Architectural attractiveness contributes insignificantly to social street activity”.

## 10.5.4 Livable streets/ Donald Appleyard

According to the studies by Donald Appleyard (Fig 4.11) there is no doubt that motorized traffic volume does restrict social street activity refuting hypothesis 1 in these particular cases, namely residential streets where social interaction along and across the street is a vital condition to maintain a liveable and good neighborhood.

However, in his book “Livable Streets” Appleyard primarily studies residential streets which have other requirements towards interference of motorized traffic compared to for instance multifunctional streets. Residential streets are much more sensitive to environmental strains due to motorized traffic streets and physical implementations to reduce such strains are therefore relevant, as Appleyard so rightly stresses.

Although the book “Livable Streets” primarily turns to traffic control devices and regulations to reduce car speed and to diminish the presence of motorized traffic, he refers to pedestrian streets and the Dutch “woonerf” <sup>E18</sup>, exemplified by the city of Delft in the Netherlands. Here architectural elements, like vegetation, were consciously used as physical impediments to alter driving patterns. Thus, improvement of the visual environment is an integrated part of the total traffic control implementation, although on a modest level.

Thus, the theories of Donald Appleyard, in the physical and functional setting of his studies:

- refute hypothesis 1: “A motorized traffic volume does not restrict social street activity”, and
- refute hypothesis 2: “Architectural attractiveness contributes insignificantly to social street activity”.

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<sup>E18</sup> “Woonerf” as Appleyard terms them are traditional streets converted into resident-oriented environments with limited accessibility for cars. In Norwegian these streets are termed “gatetun”. These street types had great influence in the 1980s.

## 10.5.5 The social inadequacy of modernistic public space/ Jan Gehl

The Copenhagen study and the subsequent rehabilitation programs have had enormous impact on the general implementation of pedestrian zones all over the world. The success story of Strøget has been widely published and convinced numerous urban planners, city councils and politicians that urban car free zones actually work. With regard to the two presented hypotheses in this thesis, a prime professional memo of Jan Gehl during 40 years of professional studies is that the absence of motorized traffic volume generates social street activity; and furthermore that architectural attractiveness is a contributing factor to encourage social street activity. Apparently, this professional opinion by Gehl can easily be deduced to refute both hypotheses presented in this thesis.



**Figure 10.7:**

*The study area of “Strøget”, Copenhagen. The Royal Castle is located to the bottom right of the picture.*

***The street as an extended road notion***

Part E: Summary and Recommendation (Chapters 10 & 11)

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However, the interpretation by this thesis of the theories by Jan Gehl is rather more ambiguous. Firstly, a statement that the absence of motorized traffic volume generates social street activity is not necessary an antagonism to the statement that motorized traffic volume does not restrict social street activity. The study area of Copenhagen is part of the “old town” with a typical medieval urban structure, as clearly illustrated in Fig 10.2. Such dense urban structure is as suitable for pedestrian traffic as it is unsuitable for motorized traffic. Consequently, all types of motorized traffic in such built environment is restricting social street activity. The success of Strøget is, to according to this thesis, is the unique combination of shopping streets (traditional pedestrian streets) and car-free intimate squares with cafés and restaurants enabling the busy shoppers to take a break to enjoy the picturesque visual scenery.

With regard to architectural attractiveness, Gehl is clearly stressing that a physical environment of high quality is a condition for a person to perform optional activities (Fig 4.17). However, Gehl is equally emphasizing that “aesthetic quality/ positive sense-experiences”, an approximate term to architectural attractiveness, is only one of twelve conditions that make a public space successful (Table 4.1). It is precisely this vital observation that make the theories of Gehl so significant and radical, reminding his fellow architects that there are other constituting factors than architectural quality that generate a successful social arena.

Thus, the theories of Jan Gehl, in the physical and functional setting of his studies:

- do not provide any evidence to either confirm or refute the hypothesis 1: “A motorized traffic volume does not restrict social street activity”, and
- refute hypothesis 2: “Architectural attractiveness contributes insignificantly to social street activity”.

## **10.5.6 “The City Street” - a Norwegian study/ Norwegian Institute for Urban and Regional Research**

In confirming or refuting the presented hypotheses, the “Bygata” – report provides concrete evidence about how car traffic is effecting the living environment negatively for the occupants within “Bygata” and in the adjacent surroundings. Consequently, this observation seems to refute the hypothesis stating that motorized traffic volume does not restrict social street activity. However, the “Bygata area” was totally dominated by the unregulated motorized traffic and consequently the residents were suffering accordingly. With the measures proposed in the report (Table 4.2) the physical impact of motorized traffic will be reduced, hopefully to an acceptable level where social street activity might be possible. However, today the area is far from a social arena despite a relatively extensive traffic regulation. Architectural attractiveness is not an important issue in the report, neither has it been a premise in the traffic regulation measures implemented subsequently to the publication of the report.

As is the case for the study of Donald Appleyard, the “Bygata” – report is presents the conditions in a residential area. The study area is not a typical suburban situation (housing estate), but definitely not a public multifunctional street that invites spontaneous social street activity. The “Bygata” area requires, as the report illustratively points out, physical measures to create feasible living conditions for the local residents at the same level as the San Francisco streets of Appleyard. Motorized traffic is influencing residential streets and multifunctional streets very differently and the means to reduce the influence of traffic are accordingly diverse.

Thus, the theories of the “Bygata” - project, in the physical and functional setting of the studies:

- refute the hypothesis 1: “A motorized traffic volume does not restrict social street activity”, and
- refute hypothesis 2: “Architectural attractiveness contributes insignificantly to social street activity”.



## 10.5.7 Rediscovering the city/ William H. Whyte

What is remarkable about the studies of William Whyte and the book “City – Rediscovering the Center” in particular, is that motorized traffic volume is not an issue. Presumably, motorized traffic is such an integrated element within the New York streetscape that it is not a matter of concern in the discussion of social street activity. To implement pedestrian streets in Manhattan is for most local residents probably absurd. In contrast to the Copenhagen study – area (“Strøget”), the streets and avenues of Manhattan are designed to cater for high volumes of motorized traffic while the wide pavements provide feasible space for the social activities to take place. However, feasible space does not attract people alone. What is the concern of Whyte is how the design of these available public spaces can actually encourage people to stop for a break.



**Figure 10.8:**  
*Pedestrian  
congestion in  
New York*

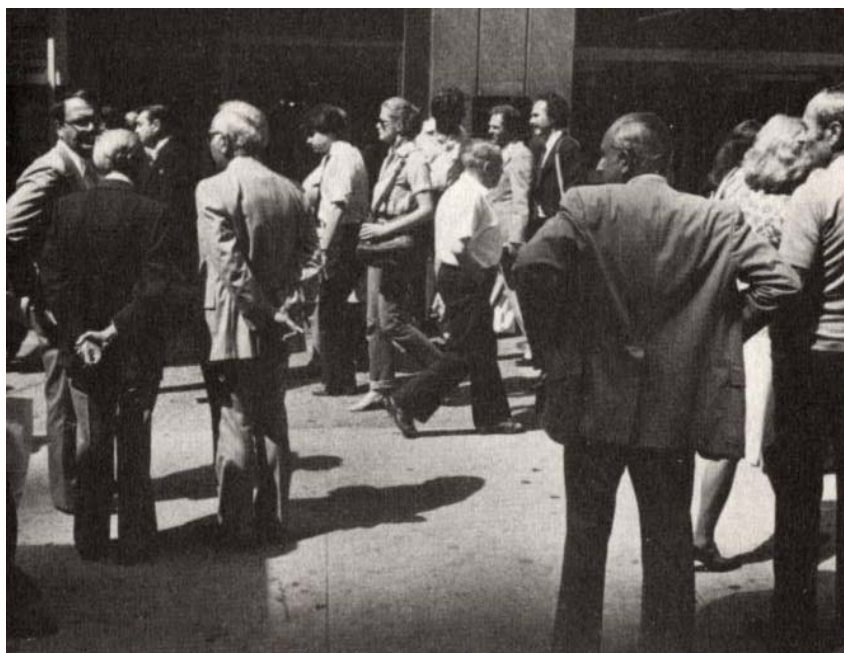
This thesis interprets the theories of Whyte as a confirmation of the hypothesis stating that motorized traffic volume does not restrict social street activity. There are, according to Whyte, completely other conditions that are decisive to determine whether people are using the street as a social arena. The observations by Whyte evidently confirm how people themselves actually are the prime generators for

### ***The street as an extended road notion***

Part E: Summary and Recommendation (Chapters 10 & 11)

human activity and how this simple fact has escaped the attention of most planners of urban spaces: *“What attracts people most is other people. Many urban spaces are being designed as though the opposite were true and that people like best are places they stay away from”*.<sup>E17</sup>

To fully illustrate this phenomenon, Whyte refers to the “schmoozers”<sup>E18</sup> on 7<sup>th</sup> Avenue. This particular observation spot is their natural meeting point despite the fact that it actually is, as Whyte points out, a physically unpleasant location: *“It is without trees or graces, it is noisy and fume-ridden, and the traffic is so bad even cyclists try to give the place a wide berth. If you ask the schmoozers if they wouldn’t prefer the plazas and the open spaces further uptown, they will look at you as though you are carzy”*.. This is the center of things.<sup>E19</sup> The “schmoozers paradise” on 7<sup>th</sup> Avenue (Fig 10.4) has all the characteristics of an acknowledged non-social arena. Nevertheless, the fact that leisurely interaction between congenial street users still occur might be explained both socially and culturally.



**Figure 10.9:**  
*“Schmoozing” on  
7<sup>th</sup> Avenue.*

<sup>E17</sup> Whyte, William H.: *“City – Rediscovering the Center”*, Doubleday, New York 1988, p 9

<sup>E18</sup> “Schmoozing” is, according to Whyte, a notion for “non-talk” (idle gossip, political opinions and sport talks) performed during leisure time as a break from professional job-related discussions.

<sup>E19</sup> Whyte, William H.: *“City – Rediscovering the Center”*, Doubleday, New York 1988, p 13

**The street as an extended road notion**

Part E: Summary and Recommendation (Chapters 10 & 11)

Despite the importance of a conscious design of the public space including street furniture expressed by Whyte, the illustration of the “schmoozers” on 7<sup>th</sup> Avenue, indicate undoubtedly that architectural attractiveness is not a decisive factor to generate social street activity in this particular setting. Again other factors might be more important. So, is the street behavior as observed by Whyte a New York phenomenon? Is the urban social street activity of the world metropolitan exceptional and distinct from anywhere else? According to Whyte it is not. For instance, he refers to similar observations in Tokyo with the same results despite of enormous differences in culture and in how the city centers are structured: “...when you get people out on the street, the pedestrians of the two cities behave very much the same. They walk fast and aggressively, and cluster in the middle of the way. At Shinjuku Station, the busiest in the world, you will be struck by how much of the congestion is self-congestion.”<sup>E20</sup>



**Figure 10.10:**  
A street theatre outside the east exit of Shinjuku Station, Tokyo, confirming the observation by Whyte.

Thus, the theories of William Whyte, in the physical and functional setting of the studies:

- confirm the hypothesis 1: “A motorized traffic volume does not restrict social street activity”, and
- confirm hypothesis 2: “Architectural attractiveness contributes insignificantly to social street activity”.

<sup>E20</sup> Whyte, William H.: “City – Rediscovering the Center”, Doubleday, New York 1988, p 23



## 10.5.8 New Urbanism

New Urbanism has, as previously described, the same aim as many urban theorists, namely to fight the car dominated suburbia and reclaim the street, and the city center, as safe and pleasant asocial arena. Two important conditions to reach the professional aim of New Urbanism is to give preference to pedestrians by relegating motorized traffic and increase the “walkability” of city centers, and furthermore to improve the architectural quality of the built environment, or according to the established planning principles: *“Emphasis on beauty, aesthetics, human comfort, and creating a sense of place; Special placement of civic uses and sites within community. Human scale architecture & beautiful surroundings nourish the human spirit”*.<sup>E21</sup> Thus, the planning principles of New Urbanism seem to refute both of the presented hypotheses in this thesis. However, reduced motorized traffic and increased architectural attractiveness are only two of many factors necessary to create the ideal of New Urbanism.



**Figure 10.11:**  
A proposal for Assembly square, Boston, USA by Goody Clancy

Thus, the theories of New Urbanism, in the physical and functional setting of their studies:

- refute the hypothesis 1: “A motorized traffic volume does not restrict social street activity”, and
- refute hypothesis 2: “Architectural attractiveness contributes insignificantly to social street activity”.

<sup>E21</sup> [www.NewUrbanism.org](http://www.NewUrbanism.org)

## 10.5.9 The Street Enhancement Program/ Norwegian Public Roads Administration

“The Street Enhancement Program” was, when launched in 1990, announced as a road safety project with the aim of reducing traffic accidents in urban areas. This is still the prime argument in applying “Miljøgate” – principles in urban transport planning. The principle was not to decrease the existing motorized traffic volume, but to reduce speed. The measure to achieve this goal was to transform the wide urban road into a narrow street with its traditional physical and commercial characteristics, accomplishing a diminished physical impact of motorized traffic on pedestrians and the community as a whole, a higher architectural quality at street level (street floor and street furniture) and more public space for social street activities. Such implementations have, nearly without exception, resulted in an upgrading of the total built environment of the street and a revitalization of commercial activity attracting more costumers to existing shops and new establishments - and as a consequence: more social street activity.

Thus, a basic condition of the “The Street Enhancement Program” is that architectural attractiveness is generating social street activity, not necessarily as a direct consequence of the improved actual architectural quality but rather to the after-effects of such improvement. Nevertheless, enhanced architectural attractiveness is appreciated as indicated by the interview surveys, stating that street users “*react positively to the aesthetic conditions in their towns after the conversion to an enhanced street*”.<sup>E22</sup> Thus, the program and the survey results indicate that the hypothesis 2 is refuted. With regard to motorized traffic volume, the total volume has not been decreased but disciplined by reducing speed and by altering the traffic pattern in the favor of pedestrians and other non-motorized street users. Thus this thesis interprets the result of the 2003–project to confirm hypothesis 1 in indicating that motorized traffic volume does not restrict social street activity provided that the motorized traffic is consciously physically managed.

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<sup>E22</sup> *From Highway to Street”- Experiences from Sixteen Enhancement Projects”, 2003, p 8*

***The street as an extended road notion***

Part E: Summary and Recommendation (Chapters 10 & 11)

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Thus, the theories of the Street Enhancement Program, in the physical and functional setting of their studies:

- confirm the hypothesis 1: “A motorized traffic volume does not restrict social street activity”, and
- refute hypothesis 2: “Architectural attractiveness contributes insignificantly to social street activity”.



## 10.6 Final Conclusions

In order to confirm or refute the two presented hypothesis, the conclusion of the theories presented in Chapter 4 is summed up in Table 10.1:

<u>Theories</u>	<u>Hypothesis 1:</u> A motorized traffic volume does not restrict social street activity		<u>Hypothesis 2:</u> Architectural attractiveness contributes insignificantly to social street activity	
	Confirming	Refuting	Confirming	Refuting
Gordon Cullen	X			X
Jane Jacobs	0	0		X
Kevin Lynch	0	0		X
Donald Appleyard		X		X
Jan Gehl		X		X
NIBR: "Bygata"		X		X
William Whyte	X		X	
New Urbanism		X		X
Street Enhancement Program	X			X
This Thesis	0	0		X

**Table 10.1:**

*A summary of the conclusion derived by the analysis of the studies presented in Chapter 3. "0" indicates that the hypothesis is neither confirmed nor refuted.*

Presented in the simplified manner illustrated in Table 10.1, there is a remarkable correlation between the conclusion of this thesis and the conclusions derived from the description of the selected theories presented in Chapter 4. One might actually state that the conclusion in this thesis is to a large extent verified by the theoreticians. However, neither this thesis nor the studies provide any explicit conclusions. The mutual results of the analysis and the theoretical assessment have a too high level of antagonism.

The theories presented in Chapter 4 are subjectively assessed by this thesis. For instance, some of my colleges would probably disagree that the Street Enhancement Program has concluded that motorized traffic volume does not restrict social street activity. Yet, it is an unambiguous opinion by this thesis that the result of the implementation of various physical means to reduce the presence and the speed of motorized traffic has clearly improved the environmental quality (including increased

***The street as an extended road notion***

Part E: Summary and Recommendation (Chapters 10 & 11)

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social street activity) of the local community without reducing the actual volume of the motorized traffic. Consequently, it is actually the physical characteristics of the street that determine whether social street activity will occur and a vital condition is that there is set relationship between motorized traffic and the physical environment of the street. And it is a relative strong unanimity that architectural attractiveness is an important factor for this physical environment to generate social street activity.

With regard to motorized traffic volume, one might draw the final conclusion that:

- **Motorized traffic must be assessed as part of the built environment where it actually occurs, meaning that if the physical environment of a particular arena is designed to simultaneously cater for a high level of motorized traffic and a high level of pedestrians, human interaction and social street activity might occur if the setting is functionally, architecturally and culturally appealing.**

giving the final conclusion with regard to architectural attractiveness:

- **An architecturally attractive social arena generates social street activity in two ways: firstly fulfilling the need of people to surround themselves by a pleasant built environment, secondly attracting commercial and cultural offers that is a condition to attract people to perform social street activity. What is a common acknowledged assertion is that if the offers are sufficient to attract people, the offers and the people themselves are the main generators to invite social street activity. In this context architectural attractiveness might be regarded as an offer and not only as pleasant sceneography for the art of social activity performance.**

## 10.7 Some Appreciated Streets

Finally, this thesis likes to challenge the above conclusions further by presenting some streets with an international reputation of being some of the greatest tourist magnets of the world. Having such extraordinary status must signify that they possess some remarkable features which are either easy to detect or simply impossible to imagine. Sometimes we find it hard to determine a specific liking of things as the process of falling in love has been one of many mysteries to mankind. The feeling of psychological ease or unease in a particular physical environment can be hard to understand, harder to explain and even harder to study.

“Urban Holidays” has become a well known tourist label. To visit the metropolitans of the world has been increasingly popular. And among the most popular tourist objects are the main streets. Some main streets have received special attention despite of a high level of motorized traffic and doubtful architectural attractiveness. How are these popular streets with regard to motorized traffic and architectural attractiveness? Eleven streets were presented by the Norwegian newspaper “Aftenposten”<sup>D23</sup> as the main tourist streets of the world. These streets are invaded by people, both tourists and local residents, and in some cases you might ponder why? Some of these streets are presented here, some are excluded and some are supplemented. For instance “Strøget” in Copenhagen, included in the exclusive collection of main streets, is left out in this section due to a thorough description earlier. Two streets that have been supplemented: Princes Street in Edinburgh and Nevsky Prospekt in Saint Petersburg due to the simple fact that I subjectively find them motivating and intriguing both architecturally and in terms of traffic. Personally I have been to them all 11 streets except Nanjing Road in Shanghai, a natural destination for the next study trip.

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<sup>D23</sup> Based on an article by Tore Sæthre, *Aftenposten*, 14.06.2006, pp 16 & 17

## 10.7.1 Broadway, New York, USA



**Figure 10.12:**  
*Broadway, New York.*

Broadway in Manhattan is one of the longest city center streets in the world covering 22 km. It is best known for its celebrated theatres. Broadway is not really architectural attractive; there are many Manhattan avenues and streets superior to Broadway in architectural splendor. However, it is a magnet and a must for a first time visitor to New York (in fact it is hard to avoid) despite a very high motorized traffic volume probably exceeding 50 000 AADT <sup>D24</sup> with a high proportion of the 12 000 yellow New York City taxi cabs present at all times. New York is planned for motorized traffic and the cars are an integrated part of the urban scenery. To navigate in Manhattan by car is easy and most predictable, unlike most Western metropolitans.

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<sup>D24</sup> *Estimated figure, probably higher. It is difficult to obtain AADT-figures from New York City.*



## 10.7.2 Oxford Street, London, England



*Figure 10.13:  
The crowded Oxford Street, London on a recent 27<sup>th</sup>  
December.*

Oxford Street in London is the ultimate European shopping street with 1.5 km of international mega stores. Oxford Street is visited by 9 million tourists a year and 60 000 people are employed in various commercial establishments. However, Oxford Street has lost some of its glory and popularity, its architectural attractiveness has faded (although some rehabilitation work has been carried out recently) and the motorized traffic is chaotic much influenced by the red double-deckers soon to become history. Although more relaxing shopping areas (such as Notting Hill and Convent Garden) are just a short tube trip away, Oxford Street is packed at all times.



*Figures 10.14 & 10.15:  
The Oxford Street, London 2000 and 1875.*

### 10.7.3 Princes Street, Edinburgh, Scotland



**Figures 10.16:**

*Princes Street in Edinburgh, a main transport route through the city*

Although Oxford Street in London does have a high motorized traffic level it is not a major transport route. Princes Street is. Princes Street is the main tourist magnet of Edinburgh the main shopping street and one of the major thoroughfares in the central city. The street stretches around 1.6 km and is mostly closed to private cars, with public transport given priority. The six lane motorized traffic system does not seem to scare the thousands of visitors that are plodding along relatively narrow pavements passing pubs and kilt shops among the major megastores. Princes Street has a unique location, architectural attractive buildings blocks (although with some debatable 1960s infills) on the south side and the Princes Street Gardens on the north side with the Edinburgh Castle overlooking the urban scenery. The main railway station is located adjacent to the park making the area into the major transport junction of Edinburgh, and offering train travelers one of the most beautiful entrances to a major city in the world.



### 10.7.4 Via Veneto, Roma, Italy



**Figure 10.17:**

*The 1960 La Via Veneto in Rome by the time of “La dolce vita” by Federico Fellini, when actors like Anita Ekberg and Marcello Mastroianni enjoyed their cappuccinos in one of the many street cafés.*



**Figure 10.18:**

*The usual parking habits of the Rome residents. This is not Via Veneto but might as well be.*

Frederico Fellini made Via Veneto into an icon for the celebrities of the early 1960s. Today the reputation of the street has changed and it has become a chic main street of Rome with embassies, luxury hotels, fashionable shops and outdoor cafés. However the motorized traffic is still present in a charming but still chaotic manner that is typical of Rome (Fig 10.18).

## 10.6.5 Avenue Champs-Élysées, Paris, France



**Figure 10.19:**  
*Avenue Champs-Élysées a ten lane avenue with a motorized traffic volume of approximately 125 000 AADT*

The 2 km long Avenue des Champs-Élysées is the prestige street of Paris with the most famous fashionable shops, cafés and restaurants present. The avenue has a very high motorized traffic volume exceeding 125 000 AADT, but very wide pavements represent a secure rescue for the millions of tourists that are strolling along probably the most famous street ever built. The avenue connects the Place de la Concorde and Place Charles de Gaule, both tourist destinations and a contributing factor for the success of the avenue being a transportation route of great splendor. The architectural attractiveness of the avenue and its surroundings is indisputable. This is an urban wonderland and appreciated by all, professionals included. Even strong opponents against urban renewal programs enjoy the main avenue of the largest urban renewal project ever to be implemented in the history of mankind.



## 10.7.6 Las Ramblas, Barcelona, Spania



**Figure 10.20:**  
*Las Ramblas in Barcelona is a paradise for tourists and pickpockets.*

After the visual rebirth of Barcelona as part of the 1992 summer Olympics, the 1.2 km long Las Ramblas regained its position as a major tourist attraction in Spain. The architectural attractiveness is unquestionable although compared to for instance Avenue Champs-Élysées, La Rambla is a back alley. What is most remarkable for a transport planner is that the street functions have reversed their position compared to a traditional street. Pedestrians are given preference and located in the centre of the street as the cars are forced to the edges (along the facades). In La Rambla this is working perfectly, at least for the pedestrians. Strolling along La Rambla, one would not believe that the street is actually motorized as the presence of the car is imperceptible. Again, the street is connecting two of the main squares of the city (El Triangle and Placa del Portal de la Pau) making La Ramblas into a charming transportation route not to be missed.

## 10.6.7 Nevsky Prospekt, Saint Petersburg, Russia



**Figure 10.21 & 10.22:** *Nevsky Prospekt in Saint Petersburg, a magnificent street totally dominated by motorized traffic; the picture below illustrating the struggle by pedestrians to conquer the pavement.*



The Nevsky Prospekt has become the commercial and financial centre of St Petersburg and is a tourist magnet despite a very high level of motorized traffic. In fact, the motorized traffic, apparently totally out of control, is actually taking control. But its magnificent architectural features are still present and are being highly appreciated by the many tourists that enjoy the wonders of the city.



## 10.7.8 Nanjing Road, Shanghai, China



**Figure 10.23:**

*Nanjing Road in Shanghai is partly a pedestrian street physically segregated probably to separate transport pedestrians and shoppers.*

A 100 years back Nanjing Road in Shanghai had four stores. Today 600 establishments are fighting for your attention along the 5.5 km long no. 1 shopping street in China. Parallel to the economic growth of the country the huge cities, and particularly Shanghai, have become available for foreign investors and visitors through low traveling costs and low prices. The east part of Nanjing Road is reserved for pedestrians after being redesigned by a French architect (Fig 10.23). The west part of the street is motorized (Fig 10.24). The pedestrian part is characterized by precisely - pedestrians. There seems to be little space (and time) for social street activities. Social activities are definitively performed elsewhere, preferably in other

***The street as an extended road notion***

Part E: Summary and Recommendation (Chapters 10 & 11)



**Figure 10.24:**  
*The motorized part of Nanjing Road  
in Shanghai.*

arenas than streets. The various traffic groups are physically segregated with light fences; even the pedestrians are divided into separated groups.

In the past few years, huge changes have taken place in the street. During the early 1990s Nanjing Road was declining and other roads were pulling the wealthier customers away from the street. A huge improvement plan was put into action and the rehabilitation program was completed just in time for the Chinese New Year 2000 celebration, including the establishment of new shopping centres and the mentioned transformation of the east part of the street into a pedestrian zone.



## 10.7.8 Summary

The presented streets are all very different. But in nearly all cases motorized traffic is a dominant and ever-present element, except for the east part of Nanjing Road and Las Ramblas. Nevsky Prospekt is probably the street that is most influenced by a motorized traffic seemingly out of control. What seems to be in control is the car traffic in Broadway and the Avenue des Champ-Élysées. In fact, it is actually hard to imagine these two streets without the cars; Las Ramblas can survive perfectly without them but Vio Veneto, Oxford Street and Princess Street have probably lost some of their charm.

So, are these wonderful streets of the world social arenas? Hardly; at present only two of the eight streets actually are: Avenue des Champ-Élysées and Las Ramblas (and to a certain extent Vio Veneto although it has lost much of its glory as the natural meeting spot of the 1960s). And what is extraordinary is that Avenue des Champ-Élysées and Las Ramblas are the extremes with regard to motorized traffic, one with a motorized traffic volume close to 150 000 AADT and the other with modest car traffic. Some architects, myself included, are aware that Avenue des Champ-Élysées is regarded by most transport planners as a cliché, a recurring and tedious argument for allowing huge traffic volumes to be implemented everywhere, regardless. The fact is, however, that the physical presence of the avenue with all its glory and traffic jams actually is appreciated by all including the same transport planners. But Avenue des Champ-Élysées cannot be detached from its surroundings – the city of Paris. The avenue is unique and its characteristics (including its physical appearance and the traffic) can hardly be transferred elsewhere. Because one does not visit Paris to see Avenue des Champ-Élysées, one visits Paris to see Paris, to inhale the total architectural and cultural atmosphere of the city of which Avenue des Champ-Élysées is an important part. Strolling there is therefore mostly a cultural exercise, like visiting the Louvres after having reached the Place de la Concorde.

***The street as an extended road notion***

Part E: Summary and Recommendation (Chapters 10 & 11)

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So what about architectural attractiveness? The presented streets are all architecturally attractive in their own rights. However, apparently, two streets are in the process of improving their visual appearance, and rightly so: Oxford Street and Nevsky Prospekt (Figs 10.13 & 10.21). So what is the attraction besides architectural attractiveness and a high level of motorized traffic? The presented streets are visited by millions annually. Thus, there are obviously good reasons why people actually do visit them. Here are some subjective opinions:

- Firstly, these magnificent tourist magnets have linked a trade mark to their name, meaning they are highly recognized commercial objects, highly appreciated by commercial interest that use their commercial status to attract the consumer . There are most probably streets in the neighborhood that are equally attractive or even more so, but the choice is easy. Why bother to spend much time searching for a perfect drink when you can grab a Coke by impulse?
- Secondly, the presented streets are all on the top of the positive success spiral. However, some streets have experienced the downfall into the negative end of the spiral (Storgata in Oslo is described as a good example). Such decline is often a slow process – just like aging. How many tourists visited Nanjing Road in 1999 and Las Ramblas in 1991? Some streets need to renew themselves to remain at the top of the spiral - others seem to stay there despite everything.
- Finally and most important, the presented streets are successful in their own right, through their location, through their culture, through their history, their architectural quality, their commercial offers, their services and their accessibility. In most of the presented streets and avenues these latter success factors are been maintained and nourished by the respectively city administration over the years by conscious planning and strategies. So probably is “awareness” the key word for success? However, to be professional aware require a wide specter of knowledge, or at least having the ability to acknowledge your professional inadequacy and being willing to acquire the knowledge necessary to produce an optional planning job. It has

***The street as an extended road notion***

Part E: Summary and Recommendation (Chapters 10 & 11)

---

always been my opinion that to be able to realize one's own inadequacy you actually need a lot of knowledge: although the more knowledge you acquire, the more you realize how little you actually know. Chapter 11 provides a small contribution, or memo of some of the premises necessary to plan streets. It is, however, far from complete.

# Chapter 11

## RECOMMENDATION

### 11.1 Preface

The ul program (described in Chapter 5), providing the methodology used in this thesis (although with a supplementary part as described), was by far the largest research program to assess urban life ever to be accomplished in Norway. Approximately 50 people were involved to realize the program. Naturally, such extensive program would have never been initiated for the sole purpose to support a PhD study. Thus, such studies have to employ existing methodologies. However, it was my initial intention that the program should proceed after the publication of the study reports, both practically <sup>E25</sup> and scientifically. A PhD – study could be an appropriate first step to realize the latter intention.

Chapter 11 provides a description of how the results of then thesis and the methodology can be developed and applied in future planning and design of streets. I differentiate distinctly between the notions “planning” and “design”. “Planning” is defined by this thesis as the procedure of attaining the feasible premises to be used in a design process, “design” being the actual physical projecting of the built environment. In this type of definition “design” and “projecting” are in fact analogue notions. It is my experience that in practical planning and design this differentiation between “planning” and “design/ projecting” is at best vague. The previously described official road and street manual <sup>E26</sup> is a design guide. A Norwegian manual for planning of roads and streets does not exist, and it is an obvious need for one, although this is not realized by all.

<sup>E25</sup> *By registering the after-effects of the planned but never realized rehabilitation plan. However, all the selected areas had, as previously mentioned, plan for rehabilitation; Strandgaten in Bergen is the only one of the 27 areas where the plan has been realized.*

<sup>E26</sup> *“Handbok 017”, Norwegian Public Roads Administration.*

***The street as an extended road notion***

Part E: Summary and Recommendation (Chapters 10 & 11)

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As a result of the analysis (Chapter 8) and the following conclusions (Chapter 9), Chapter 11 would like to go more thoroughly into the methodology used in this thesis:

- Firstly, by assessing its applicability as a general methodology to attain premises for street design, or in fact a proposal for a methodology for street planning. This is actually a general and more thorough appraisal of the first part of the UL methodology termed in Chapter 5 as, “Premises for Social Street Activity”, presented in three separate sections:
  - *Physical Premises for Street Design (Section 11.2)*
  - *Identification of functional requirements (Section 11.3)*
  - *The differentiation of planning premises (Section 11.4)*
- Secondly, by assessing its applicability to assess social street activity. This is actually a general and more thorough appraisal of the second and third parts of the UL methodology termed in Chapter 5 as “Factual Street use” and “Characteristics of Social street Activity”, termed:
  - *Street Use and Activity (Section 11.5)*
- Thirdly, by presenting factors that generate social activity derived from this thesis, naturally termed:
  - *Factors that generates Social Street activity (Section 11.6)*
- Fourthly, by presenting local challenges, naturally termed:
  - *Local Challenges (Section 11.7)*

## **11.2 Physical Premises for Street design**

As previously described, the major considerations of modern planning of urban transport arteries, including the street have been traffic capacity, mobility (such as traffic flow), traffic volume and road safety requirements. The premises of street design have therefore been primarily based upon physical and mathematical quantities with the rural road as a planning model in wherever landscape, rural, semi-urban or urban. The Norwegian road and street design manual of 1992 had one major objective, namely to alter this inadequate planning model. What it did was to divide the world of planning into three planning areas: rural area, semi-urban area and urban area. However, the proposal for a new design manual, not yet been approved, is going further by emphasizing the specific requirements of the street. The new manual is separated into two parts: one specific road design section and one specific street design section. Such professional preference requires a planning tool to determine the physical premises for both road and street design.



## 11.2.1 Identification of local identity

The major aim of the Norwegian road and street design manual of 1992 was to alter the present planning practice by introducing “planning premises” that were as equally important as physical and mathematical values. The structure of the manual is based upon the comprehension that the design premises differ drastically according to the characteristics of the local environment of the individual project, defined as a rural, a semi-urban or an urban area. Consequently, in order to execute adequate planning in one particular area, for instance a central street, the local identity and requirements of the location have to be established through registration. Such registration work should be a natural part of such planning process, but is hardly considered at present. In the forthcoming manual such requirements are even more vital. The UL-program introduces one possible approach, in which the registration of the quantitative and qualitative characteristics of the street comprised the following data divided into two categories:

1. **overall conditions** at a regional, local and detailed level, such as *land use, demography, climatic conditions, environmental strains, traffic accidents and crime*.
2. **street character** such as *the built form* (including urban structure, building style and age, building heights, use of materials and maintenance), *the street room* (including the urban space, visual experience, street floor use and use of materials) and *street furniture and vegetation* (including lightning and recreation areas).

### Overall conditions

Overall conditions comprise a range of elements, and are defined as external design prerequisites that are distinct from, but influential upon, the local functional and the architectural characteristics of the street. Environmental strains caused by traffic, such as noise and air pollution, traffic accidents and general crime are elements that are defined as overall conditions. Furthermore, the general development and transformation of land use might also have a great impact on the local planning of the street. The overall conditions may alter over time, but very differently. As climatic

***The street as an extended road notion***Part E: Summary and Recommendation (Chapters 10 & 11)

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conditions might be considered as static (which is of course highly debatable), demographical conditions and land use are subject for changes due to political initiatives. Local environmental strains, however, are more sensitive to changes.

***- Land Use***

Basically all planning is subject to regulations defined in various types of plans or planning documents. Such plans and regulations have different status, from being purely guidance to mandatory. However, independent of the planning status of the particular area and how the land use might be defined, it is important to consider the actual land use and any regulations in adjacent areas that might affect both overall and detailed planning conditions for the project in question. A study of the land use might therefore include an appraisal of the planning history of the area, future planning development, and finally how, and to what purpose, the area actually is developed. The latter study can include for instance buildings, streets, pavements, parks and private areas. There are several methodical approaches, or location analysis, being developed over the years for such purpose. The Ministry of the Environment summarizes such analyses in the following categories <sup>E27</sup>:

- nature and landscape analysis, includes green-structure analysis
- quantitative location analysis, method for interpretation of local character
- realistic urban analysis, method for interpretation of architectural contexts
- analysis of cultural environment, based on art historical tradition
- visual methods such as "Municipal Atlas" (Danish method)
- aesthetical city structure

***- Demography***

Demographical conditions are strongly influential on both functional and social characteristics of streets. Traditional streets are primarily situated in the city centres that have other age groups than for instance the suburbs. As the suburbia was established in the 1950s and onwards, the demography of the Western city centres as a whole changed. From having a high proportion of dwellings, many city centres have become commercial arenas, comprising shops and offices. In such city centres, the activities of the street are primarily dependent upon the opening hours of the

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<sup>E27</sup> *Translated by the author*

***The street as an extended road notion***Part E: Summary and Recommendation (Chapters 10 & 11)

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various commercial functions. Consequently some city centres are basically derelict after 5.00 PM. In city centres with some infusion of dwellings, the family and age structure of the inhabitants have changed dramatically. From being inhabited by all family types, the one person family has become the typical dweller of the city centre and the age structure has changed accordingly. Recent research in Norway has established that compared with the suburbs, the city centre has in general:

- a smaller portion of children under the age of 20
- a higher portion of the age group 20-29
- a lower portion of the age group between 30 and 66
- an equal portion of the age group between 67 and 79
- a higher portion of inhabitants over the age of 80

These data correspond well with the demographical trends in the Western world. As the new established families move to the suburbs where the detached family house allures at a reasonable price, the young generation stays behind, enjoying the social and active life of the urban street. In addition to this statistic fact, there seems to be more unregistered <sup>E28</sup> young people living in city centres, such as students attending local colleges and universities. The University of Copenhagen has, for instance, located most of its faculties within the inner city, giving its inhabitants an additional high proportion of young people. There is now an increasing scepticism towards the plan of the City Council to move these faculties to the outskirts of the city, changing the social structure of the inner city and making it into an inactive social arena.

***- Climatic conditions***

Climatic conditions have always had a contributing influence on the location and layout of public spaces. The physical form of streets and squares has either been designed to provide shelter against sun and rainfall or to promote the accessibility of the sun, depending on the geographical location. While the inhabitants of equatorial countries through centuries have developed physical arrangements to reduce the impact of the sun, the people of the sub-arctic countries have implemented the quite opposite provisions. Such arrangement varies from the location and layout of urban

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<sup>E28</sup> *unregistered: meaning that the students has no registered address*

***The street as an extended road notion***Part E: Summary and Recommendation (Chapters 10 & 11)

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structures, to the design of the street room, from the placing of street furniture to the colours and details of the buildings. Rain and snowfall, wind, temperature and availability of sunshine are meteorological data that are essential premises for the design of public spaces. Climatic conditions constitute, for instance, one of the success criteria of the shopping centres, ensuring people stable and pleasant weather conditions at all times. In some countries this kind of planning approach has been developed to the extreme. In some American and Asian cities the traditional streets have become desolated, replaced by underground walkways and elevated tubes linking one shopping centre to another. In Bodø, a town in the north of Norway, part of the main street has been fully-glazed as protection against the rain and snowstorms of the Atlantic Ocean. The result is that the original main public space of the city has become privatized and unavailable to the public outside opening hours.

***- Environmental strains***

Environmental strain represents a major challenge today. Its effect is general but has different individual and local implementations. The human threshold to accept noise and air pollution varies from person to person dependent upon the geographical location, the social status and the aesthetical quality of the physical environment of their local community in addition to the physiological condition of the individual. There is a tendency that people are willing to accept a high level of noise and air pollution within the urban public arena on the assumption that it offers a variety of qualities to the public. Thus, the effect of environmental strains as a threat towards the liveable and sustainable street is difficult to measure. The "environmental capacity" of streets is dependent upon a versatility of conditions beyond noise and air pollution, although these two elements hardly without exception are subject to extensive attention and research as major sources for the environmental downgrading of the street. This is due to the fact that noise and air pollution are physical quantities and easily measured, as opposed to qualitative quantities such as aesthetic and social characteristics.

### ***The street as an extended road notion***

Part E: Summary and Recommendation (Chapters 10 & 11)



**Figure 11.1:**  
*Bygdøy alleé, Frogner, Oslo. Although the street is one of the most polluted in Oslo, people are willing to purchase flats with market prizes exceeding 10 mill NOK.*

#### **- Crime and traffic accidents**

Crime and traffic accidents are the conditions that create most fear and insecurity among street users. There is no doubt that crime at present is the most published physical strain of the city, but statistics show that street users are generally more likely to be knocked down by a car than by a fellow human. Furthermore, the persons that are less likely to be involved in unprovoked violence, females in the age group 20-40, are the ones feeling most insecure. Likewise, the males in the same age group have little fear of street violence although they are the group most likely to be involved.

The insecurity and emotional attitude towards crime and traffic accidents among urban inhabitants do not seem to correspond with statistical facts. However, both traffic accidents and street violence are frightening realities to urban inhabitants in the

***The street as an extended road notion***

Part E: Summary and Recommendation (Chapters 10 &amp; 11)

industrial world. Traffic accidents can be prevented by restrictions and physical regulations. The segregated traffic planning model created dissolved cities, but also reduced the number of traffic accidents considerably. The "zero-vision"<sup>E29</sup> presented by the Nordic countries, indicating a future aim of no fatal traffic accidents, might be considered unrealistic, but nevertheless illustrates the faith in traffic management as a tool to reduce traffic accidents.

Crime and violence are undoubtedly a major problem within the urban society, and to establish "the safe city" represents an immense challenge. Planners have through centuries strived to arrange the urban physical environment to encourage a civilised interaction between human beings. Consequently, the public space has originally been designed to prevent crime, not to provoke it. What the modernistic urban planners ignored however, was the fact that a city is not constituted by monumental buildings but the space between such architectural elements; and furthermore, the social significance of the intermediate zone between the public and the private arena: *"A bookseller who displays books on the pavement outside his shop, has extended his private sphere by borrowing a bit of the public arena. A bar owner, who has placed two tables on the pavement, indicates that the public space continues into his private sphere. Such signals regulate part of the social life of the city and they express the function and the social use of its buildings"*<sup>B30</sup>. Crime is, as the Norwegian journalist Jan E. Hansen expresses it, a product of social, mental, political and ethical disparity, and is best affected by cultural reforms. Manchester is a good example of such approach. The industrial decline of the 1970s caused social frustration within the urban society, and Manchester became gradually one of the most criminally tainted cities in the UK. After reforms that transferred it into an attractive cultural city, the violence decreased considerably within a few years.

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<sup>E29</sup> *The "zero-vision", a vision that means that no one is killed or serious injured due to traffic accidents.*

<sup>B30</sup> *Jan E. Hansen, journalist in Aftenposten; statement translated by the author*



### ***The street as an extended road notion***

Part E: Summary and Recommendation (Chapters 10 & 11)

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Although it might seem difficult to prevent crime through physical means, the creation of defensible spaces <sup>B31</sup> and the crime prevention through environmental design (CPTED - pronounced "sep-ted") are subjects of growing concern among urban planners today, having the book "Defensible Space" by Oscar Newman <sup>B32</sup> as the obligatory and ultimate bible. The goal of CPTED is, according to Robert A Gardner <sup>B33</sup>, *"the reduction of opportunities for crime to occur. This reduction is achieved by employing physical design features that discourage crime, while at the same time encouraging legitimate use of the environment. CPTED also makes possible designs that offer protection without resorting to the prison camp approach to security. The idea of using the physical environment as protection against attack may to date back to the cavemen. However, it wasn't until recently that the problem of creating a defensive environment was approached from both the physical and the psychological aspects at the same time. This blend of disciplines is the essence of the CPTED concept."* <sup>B34</sup>. There are numerous books and articles on the subject. However, most planners still tend to base the urban planning approach on the segregated road and street system ignoring the basic knowledge and means of crime prevention within the urban space or lack of such.

## **11.2.2 Street character**

The physical characteristics of the street comprise the architectural and aesthetical significance of the street room including buildings, furniture and vegetation. These elements are important factors in order to establish the significance of physical form as a condition for urban life. How the physical environment is influencing the street as a social arena is a matter of professional dissension. As the architects emphasize high architectural and aesthetical quality of the built environment as the major condition for a liveable street, the sociologists claim otherwise. However, physical

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<sup>B31</sup> *"Defensible space" is the term used to describe an area that has been made a "zone of defense" by the design characteristics that create it.*

<sup>B32</sup> Oscar Newman (1935-2004), architect and author of "Defensible Space", 1971.

<sup>B33</sup> Robert A. Gardner: *C Security, Crime Prevention & Community Safety Advisor*, California, USA

<sup>B34</sup> <http://www.vcnet.com/expert/library/cpted.html>

planning has during centuries proved to have a great influence on the quality of the social conditions of the urban society, both negatively and positively. Therefore, the characteristics of the physical environment represent an important planning premise.

## **The built form**

The notion "built form" comprises the structural arrangements of the building blocks as well as the individual peculiarity of buildings such as architectural character and maintenance. Urban structures can, as previously described, assume different architectural forms dependent upon local geographical and topographical conditions and functional requirements, in addition to ever-changing planning ideals. Consequently, the appraisal of the structural characteristics of the urban form must not be generalized, but be based on local conditions. Such knowledge is of vital importance to comprehend the layout of streets, described through their linear and perpendicular characteristics, both vertically and horizontally. The aesthetical quality of the built form in general and of the public space in particular, is in most cases derived from an architectural intention and how this intention is realized and maintained. Each street has its specific architectural identity, based upon its symbolic individuality and prevailing architectural styles and trends. Such architectural identity reflects the hierarchical position of the street within the urban structure, both functionally and architecturally and indicates social and cultural status. This is, along with the architectural characteristics of the street space, expressed by the architectural scale, the height, the colour, the elements and the detailing of buildings. It is difficult to find a better example to illustrate this than the Victorian building tradition in Britain, where for instance the architectural expression of the housing symbolized the vast difference in status within the social community.

The level of maintenance reflects architectural ambition and status and the cultural awareness of the local community to regard the public space as a residential arena. The Italians, who do not even have the notion "home" in their vocabulary, have an altogether different attitude towards their common areas compared to most Europeans. As their dwellings remain an arena for the trivial life of the family, they put a lot of energy in the up-keeping and maintenance in the public space, because

### ***The street as an extended road notion***

Part E: Summary and Recommendation (Chapters 10 & 11)

---

when the "piazza" fulfil the function of the local sitting room, there is no need to put much time, money and effort to touch up the relatively simple housing standard. The English "pub", the German "bierstube" and the Danish "kro" have all the same function and social quality.

### ***The street room***

The street room might be described as the three-dimensional characteristic of the street comprised by the street dimension, the characteristics of the street within the urban structure, the land use of the street, the use of materials and the level of maintenance. The street dimension is defined as the ratio between the width of the street floor and the height of the vertical elements, usually comprised by buildings or vegetation, or both. This ratio indicates the spatial characteristics of the street, architecturally differentiated between the narrow alleys of the Medieval and the broad boulevards of the Baroque. Each architectural trend has developed its own definition of the optimal street dimension, and numerous theories, for instance represented by Camillo Sitte and the Krier brothers, give descriptions of the three-dimensional significance of the street-scape, or its "architectural dynamics". Perhaps the most convincing analysis of the street space ever to be produced was the serial vision analysis presented by Gordon Cullen in his book "The Concise Townscape", described in Section 4.2.

The Norwegian urban theorist Thomas Thiis-Evensen gives a further account of this phenomenon in his book "Urban Expressions"<sup>1</sup>. The theories of Thiis-Evensen are clearly inspired by Leon Krier. His book, which describes a method for aesthetical urban design, introduces an analysis of urban structure with the purpose "*to get an overview of the visual characteristics of an existing urban fabric as a foundation for design manuals needed to plan new developments*". The urban design method of Thiis-Evensen comprises a "decomposition" of the city into urban components as "gestalts". These are defined as the building block, the street, the square and the "urban field". The "urban field" is in the book described either by a given structure of built form or a street pattern, or a combination of both. The method aims at understanding the visual characteristics of these elements, and utilizing this understanding through architectural "manipulation". This is in order "*to increase the*

***The street as an extended road notion***

Part E: Summary and Recommendation (Chapters 10 & 11)

---

*information value of the elements by strengthening them visually in connection with their task*".

Within this theoretical foundation the elements are expressed through their "directional formation". "The directional significance of urban components is leading us and consequently provides us with signs designating how we are to use our surroundings". Consequently the task of the buildings will be to "delimit" the urban space, the task of the street will be to "lead", and the task of the square will be to "assemble". In order to understand the street as an architectural urban design element, Thiis-Evensen discusses it within different "urban fields". In so doing he is systematizing the "urban field" into four basic structural patterns: the gridiron pattern, the axial pattern, the central pattern and the organic pattern. These basic urban patterns, as various combinations of built form and street patterns constitute the substance of urban organism. The book discusses them as being grouped or overlapping. The "urban fields" without structural identity, the amorphous urban zones, are not being dealt with.

Within these structural patterns of "urban fields", the street has different architectural functions. In a limitation of urban structure, the street floor or the street walls, separately or combined (the street enclosure) may constitute the limitations. Within a building block, the street pattern may determine the block formation. Likewise a constructional single element, or a "focus", may be articulated in connection with a street pattern or the creation of a square or a street enclosure. These architectural characteristics of the street as a structural element, illustrate the important function of

the street to link, delimit or accentuate urban structures. The street may also emphasize urban "fields" or specific elements within or outside a given urban structure. The street may further be accentuated within one or two overlapping urban structures in such a way that one structure will be predominant. In order to systematize this versatile characteristic of the street as an urban element, the book introduces a street typology with the following differentiation: the "through street", the "boundary street", the "sequence street" and the "fond street".

***The street as an extended road notion***Part E: Summary and Recommendation (Chapters 10 & 11)

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***Street furniture and vegetation***

Architecturally, public furniture is underestimated an element within the public urban space. Street furniture, both commercial and technical, has an immense visual impact on the aesthetical quality of the city - and the street. The visual characteristic of the public space is far more than buildings and the physical space between them. It is also constituted by the multitude of technical and functional elements. Such elements have generally different origin, both private and public, and are often implemented without apparent coordination, even by members of the same institution. Elements, such as for instance traffic equipment, lighting, masts, benches and not least advertising, are in most cases planned independently from the general built environment, often accidentally selected on the basis of an occasional product catalogues the planner might have at his disposal at a given time.

A well considered layout of street furniture is not only a condition to achieve public arenas of high aesthetic quality, but also to promote a positive social use of the common space. Benches are for instance not only elements of architectural importance, but actually facilities for seating and socializing. Consequently, benches should be arranged in such way that their users benefit from both the activity of resting and taking part in the social life of the street: to see and to be seen. A bench that does not meet the latter criterion is rarely used. Such planning criteria are often too inevitable to enter the mind of the rational planner, who usually gives preference to architectural and technical requirements rather than to the needs of the irrational common user.

Another element with both social and architectural significance is lighting. During the 20<sup>th</sup> century lighting has been an important policing element of the city, extending the use of its facilities considerably, especially in the Nordic countries. It is no coincidence that the Norwegian town Hammerfest, the northernmost town in the world, was the first town ever to develop an overall street lighting system, enabling its inhabitants to use the city fully during the six months of darkness. Apart from the apparent functional advantages of lighting, it has architectural features beyond recognition. Many recent light design projects, for instance in France, have illustrated the magnificence of lighting through a high level of technology as an individual

***The street as an extended road notion***

Part E: Summary and Recommendation (Chapters 10 & 11)

---

architectural element, as sculptural art and as an accentuating complementation to the visual significance of buildings and constructional elements. However, few architects and transport planners are aware of the possibility of light as a design tool. Street lighting is in most cases still planned according to technical road design manuals, ignoring the secondary light sources from shops, restaurants and so forth, leaving the streets in a glare.

Today, a lot of attention is concentrated on preventing vandalism and aesthetic depreciation of the public space. As street furniture is the most accessible urban element with regard to vandalism, the public management of such elements is an important contribution to this joint effort. Local street design manuals and appraisal programs are being published in the hope to incorporate the various street elements within the overall physical environment of the public space. The main challenge however, is to change the present conduct towards industrial design, and introduce this special field of interest as an integrated part of street design.



## 11.3 Identification of functional requirements

Functional requirements as planning premises for street design cover a wide range of elements. In a planning process, the intended function of a street is a vital premise for design. The street might have one specific or a manifold of functions, serving for instance as an arena for car traffic, bicycle traffic, pedestrian traffic, public transport, social activity, commercial activity and public activity. There are many examples of functional typologies of streets (Section 1.2.3). However, the intended functional requirements have to be determined in the planning process before the establishment of design premises.

Generally, the functional requirements can be sorted into three categories:

1. **offers** such as *commerce* (primarily shops), *commercial services* (primarily hotels, restaurants and cafes), *culture* and *public services* (post offices etc)
2. **accessibility** for cars, pedestrians, cyclists, public transport and car park.
3. **urban life**, as described in Section 5.2 - 5.4.

### 11.3.1 Offers

As the aesthetic quality of the physical environment undoubtedly is a major condition for a liveable street, sociologists regard the manifold of offers provided by the city as equally, or probably more important. Architectural features and social activities might be regarded as offers themselves, but functions like commerce, services, catering and culture have always influenced urban life and been the very condition for the foundation of cities. The appraisal of the street as a social arena must therefore include thorough studies of such functions to become expedient. The “multitude of functions” has always been regarded as the significance of the city centre and the street. During the past decades however, these characteristics have been exploited fully in the development of the shopping centres, which today can offer a complete range of functions similar to the traditional urban street, including cultural and recreational facilities. So how can the street compete? In order to vitalize the city

centre and retract the converted user of the shopping centre back to the street, the commercial associations of the city must adapt the administrative organizing system of the shopping centres in order to strengthen the cooperation and management among shop owners, and promote the specialized shops which represent an offer not provided by the suburban centre. Furthermore the city administration has to cultivate the offers that the shopping centres cannot provide, namely the cultural identity, the history, the unpredictability and the availability of the urban street.

### **11.3.2 Accessibility**

Accessibility is rated as a major condition for a liveable street. It is however, a relative notion, dependent upon other characteristics of the street, such as demography. Shop owners claim that poor accessibility by car represents a general cause of the decline in the commodity trade of the city centre. This accusation might be right, but only for non-residential streets with poor or no access to public transport. Research has indicated that the users of shopping streets within residential urban areas, or in areas with a well-developed public transport system, rarely use the car as a means of transportation <sup>B35</sup>.

Accessibility must therefore be regarded as a consequence of land use and alternative transport facilities than the car. The key to improve the accessibility within the city centre is therefore to vitalize it by altering the land use in favour of residential purposes. Urban housing facilities are a condition for a liveable city, and for a liveable street. Today there is a tendency to reverse the commercialization of the city centre, by promoting urban housing or even transforming commercial buildings into flats. To increase the proportion of housing within the city centre is an important part of the vitalization of the city, which is a major goal for many city councils today. In this vitalisation process the politicians and planners have to recognize the street as the pulse of the city and the streets have to become accessible for both local inhabitants and people from the suburbs.

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<sup>B35</sup> *Oslo Sporveier: Bogstadveien report.*

## 11.4 The differentiation of planning premises

Planning premises for streets (and roads) were defined in Section 7.2 in five categories:

- 1) **Overall parameters**, comprising traditional conditions such as traffic and environmental capacity, traffic mobility and road safety requirements.
- 2) **Local identity**, differentiated in two categories namely “overall conditions” and “street character” (Section 7.3).
- 3) **Functional requirements**, differentiated in three categories namely “offers”, “accessibility” (Section 7.3) and “urban life” (Sections 5.2 - 5.4).
- 4) **Technical requirements**, comprising traffic equipment and installations and technical installations such as water, drainage and waste disposal, telecommunications and so forth. These requirements have no relevance in this context and are therefore not discussed.
- 5) **Dimensional parameters**, comprising the physical appearance of pedestrians and different types of vehicles including bikes, traffic conditions such as way of driving, traffic load, traffic allocation, distribution of driving direction, area use and trip production and speed.

The above planning premises are all important, but they have different impacts on the design of each specific street and square; or to be exact: each street is unique and offers a specific and distinctive set of requirements to be considered in a planning procedure; these requirements are defined as planning premises. Thus, it is difficult, and one might state incorrect, to introduce a general and unambiguous differentiation of the presented planning premises. However, with regard to street design, any street planning should include a process where all the premises mentioned are methodically considered. Such consideration procedure requires an assortment of relevant premises to be selected according to local identity, functional requirements and dimensional parameters. The overall parameters, the local identity, the functional and technical requirements and dimensional parameters apply to all types of planning tasks. However, the overall and the dimensional parameters are universal

and the local identity, the functional and technical requirements refer to specific local conditions. A street with heavy car traffic and a pedestrian street evidently has many dissimilar functions, referred to as “functional requirements”, but they are both subject to some similar “dimensional parameters”. The following is an attempt to segregate the presented planning premises into the above mentioned five categories. In order to produce an approximate differentiation the categories are divided into the under-categories “**general**” and “**situational**”. The general category refers to planning premises that are universal and subject to compulsory appraisal regardless of local conditions. The situational category refers to a planning premise that has to be considered according to situational circumstances. They are optional in the sense that they have to be assessed in each case to be considered viable.

### **11.4.1 Overall parameters**

The parameters traffic and environmental capacity, traffic mobility and road safety requirements are all regarded as *general*.

### **11.4.2 Local identity**

#### **General conditions**

The general conditions are divided into the following categories in Section 5.3.1: land use, demography, climatic conditions, environmental strains and crime and traffic accidents

##### **- Land use**

Any street that is the subject of planning is without exception located within or as part of an existing urban structure (as a rural road is a part of a natural landscape). The appraisal of the land use is therefore considered as vital, not necessarily to generate social activity, but to comprehend the structural characteristics of which the street is subordinating itself.

**Land use** is regarded as *general*.

### ***The street as an extended road notion***

Part E: Summary and Recommendation (Chapters 10 & 11)

---

#### **- Demography**

As previously described demographical conditions are strongly influential on both functional and social characteristics of streets. Few streets, if any, have a sole function of being transport arteries. Such arteries are described earlier as urban motorways generally segregated from the existing urban structure and the traditional urban scenery where the wide range of human activities play an important part. Street design, as opposed to planning of urban motorways, therefore has to consider demographical conditions, although such considerations are scarce in the prevailing planning tradition.

**Demography** is regarded as *general*.

#### **- Climatic conditions**

As previously described, climatic conditions have always had a strong influence on the location and layout of public spaces. Furthermore, climatic conditions have always affected the location and layout of cities and urban structures. However, most streets that are subject to planning are commonly a part of an existing urban structure having already incorporated overall climatic conditions.

**Climatic conditions** are regarded as *situational*.

#### **- Environmental strains**

Environmental strains is foremost a local problem and challenge. Such strains must surely be considered both as a current and an eventual future problem, but only be included as a planning premise if considered applicable.

**Environmental strains** are regarded as *situational*.

#### **- Crime and traffic accidents**

As previously described, crime and traffic accidents are the conditions that create most fear and insecurity among street users. However, during modern transport planning history, there has been a vast difference in the attention of the two as planning premises. While crime has hardly been considered, traffic accidents or traffic safety has been the prime premise for planning of urban transport arteries since the invention of the car. Furthermore, in the prevailing planning traffic safety

has become the prime concern and planning premise as part of the “zero-vision”. Consequently, in order to segregate and differentiate these categories, they have to be divided:

**Crime** is regarded as *situational*.

**Traffic accidents** are regarded as *general*.

## **Street character**

Street character is divided into the following categories in Section 5.3.2:

- the built form (including urban structure, building style and age, buildings heights, use of materials and maintenance)
- the street room (including the urban space, visual experience, street floor use and use of materials)
- street furniture and vegetation (including lightning and recreation areas)

### **- *The built form***

As previously described, the notion “built form” comprises the structural arrangements of the building blocks as well as the individual peculiarity of buildings such as architectural character and maintenance. As all streets are integrated in urban structures, an assessment of such structures is consequently of vital importance in all street planning and design.

**The built form** is regarded as *general*

### **- *The street room***

The street is distinguished from the road by functions and by its three-dimensional characteristic. As previously described this three dimensional characteristic is comprised by the street dimension, the characteristics of the street within the urban structure, the land use of the street, the use of materials and the level of maintenance. Consequently, the street room is a vital premise for the design of streets.

**The street room** is regarded as *general*.



### **- *Street furniture and vegetation***

As previously described, both the commercial and technical street furniture, has an immense visual impact on the aesthetical quality of the city - and the street. Such elements will always, although in different forms, be included in the total visual impression of the street and represent important architectural elements to create the street scape as defined above. Despite of their fundamental contribution, such elements are greatly underestimated as visual elements by most street planners. There is, however, few or any existing methodical approaches how to give street furniture and vegetation necessary consideration in practical planning.

**Street furniture and vegetation** is regarded as *general*.

## **11.4.3 Functional requirements**

### **Offers**

Offers are divided into the following categories in Section 5.3.3:

- commerce (primarily shops)
- commercial services (primarily hotels, restaurants and cafes)
- culture and public services (post offices etc)

#### **- *Commerce***

As previously described, sociologists regard the manifold of offers provided by the city as equally, or probably more important than the aesthetic quality of the physical environment as a major condition for a liveable street. As opposed to the road, the street is a commercial arena. However, not all street types are commercial meaning that commerce as a planning premise only applies if the street has or is intended to have a commercial function, therefore:

**Commerce** is regarded as *situational*.

#### **- *Commercial services***

Commercial services, specified as primarily hotels, restaurants and cafes, are offers within the commercial and social arena that represent important contributions

## ***The street as an extended road notion***

Part E: Summary and Recommendation (Chapters 10 & 11)

---

towards the social activity in the street, but are not regarded as vital planning premises. As commerce, commercial services apply if the street has a function that justifies the presence of such services, consequently:

**Commercial services** are regarded as *situational*.

### **- Cultural and public services**

As for cultural and public services the same argument just presented for commercial services above applies, consequently:

**Cultural and public services** are regarded as *situational*.

## **Accessibility**

Accessibility is divided into the following categories in Section 5.2.4:

- cars
- pedestrians
- cyclists
- public transport
- car parking

### **- Cars**

The car or rather the accessibility of the car, as previously described, has represented the major planning premise for both street planning and urban planning since the invention of the car. Although the prevailing urban planning tradition has a more versatile approach, introducing a wider spectre of planning premises than the car and different types of traffic requirements, the car will have an important influence on urban planning in general and street design in particular in the foreseeable future, consequently:

**Cars** are regarded as *general*.

### **- Pedestrians**

Cities originally were developed as arenas for the purpose of exchanging products and services and above all offering feasible shelter for people. To provide for the well being of people has therefore been the main object of the planning of urban structures and streets that constitute a vital part of this structure. Consequently, the

### ***The street as an extended road notion***

Part E: Summary and Recommendation (Chapters 10 & 11)

---

provision of sufficient conditions and accessibility for the street user, including the pedestrians, is essential in an historical perspective which is far more important than meeting the needs of the car; therefore:

**Pedestrians** are regarded as *general*.

#### **- Cyclists**

The cyclist represents an important street user today. Many European cities have carefully and successfully organized their cities and their streets in particular to include the accessibility of bikes within their traffic system. This is done with the notion that bikers are regarded as a highly prioritized group of street-users. The presence of the bike has developed from a peculiar phenomenon into a general and the accessibility of cyclists therefore justifies careful attention. Due to the fact that cyclists appear in all types of streets and not purely in streets with the provision of separate bike lanes, this necessitates consideration of a compulsory level rather than a situational one.

**Cyclists** are regarded as *general*.

#### **- Public transport**

In order to reduce the use of cars in urban areas, the development and expansion of public transport has increased greatly within the cities of the Western world during the last few decades. Although presenting an important factor within the city and in the street in particular, the public transport routes are defined in specific streets. Consequently, public transport is not a planning premise of a general nature although it has situational significance.

**Public transport** is regarded as *situational*.

#### **- Car parking**

The provision of parking truly influences the accessibility of humans as car users. Lack of car parking represents an ever-recurring argument for poor general accessibility in the city especially among shop owners that seem to regard the car as the sole means of transportation. Several studies indicate the improbability in such arguments. The necessity of car parking is dependent upon several other factors as

for instance the provision of public transport and the accessibility for pedestrians and cyclist. When these offers are defined, the requirements of car parking might be defined.

**Car parking** is regarded as *situational*.

## 11.4.4 Dimensional parameters

### Road users

Road users in Section C.1.1 are divided into the following categories:

- pedestrians
- cyclists
- cars

The physical appearance of pedestrians, cyclists and cars are all regarded as *general*.

### Motorized Traffic

Motorized Traffic in Section 5.41 is divided into the following four categories:

- way of driving
- traffic load
- traffic allocation
- speed

#### **- Way of driving**

The notion “way of driving” describes how especially long vehicles (lorries) might run within a traffic environment designed for small vehicles, using one lane only for turning 90 degrees in urban settings (driving type A) or using two lanes (including the one for traffic in opposite direction) for turning 90 degrees in urban settings (driving type B). This applies, as indicated, for an urban situation and is consequently *situational*.

**Way of driving** is regarded as *situational*.

## ***The street as an extended road notion***

Part E: Summary and Recommendation (Chapters 10 & 11)

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### **- Traffic load**

Traffic load, described as AADT (the average annual traffic load divided by 365), is traditionally one of the most important planning premises. Although it is highly relative as a notion, it varies dramatically and is highly situational.

**Traffic load** is regarded as *situational*.

### **- Traffic allocation**

The significance of the notion traffic allocation applies to heavy traffic, generally set to 10-15% of the total traffic load in public roads. However, the distribution of heavy traffic varies greatly, being more evident in urban areas. Thus, registration of heavy traffic, and the accessibility of such traffic should be of general interest.

**Traffic allocation** is regarded as *general*.

### **- Speed**

Roads and streets are planned according to dimensional speed, defined as the speed level kept by 85% of the road users (85% fractile). Such dimensional speed should, according to the prevailing design manual, be 10-20 km/h above the local speed limit for roads and at least 10 km/h above the local speed limit for streets with the objective to incorporate a safety margin. This planning practise is feasible for roads in rural areas, but has resulted in a high degree of over-dimensioned roads and streets in semi-urban and urban areas. Consequently, street design should be planned according to the proposed speed limit rather than dimensional speed (commonly 10 km/h above desired speed limit).

**Speed** is regarded as *general*.

**The street as an extended road notion**

Part E: Summary and Recommendation (Chapters 10 &amp; 11)

**11.4.5 Differentiation diagram**

Parameters	General		Situational		Difference
	Street	Road	Street	Road	Street / Road
<b>1. Overall parameters:</b>					
1.1 Traffic capacity	2	2			
1.2 Traffic mobility	2	2			
1.3 Traffic safety	2	2			
1.4 Aesthetical quality	2	2			
<b>2. Local identity parameters:</b>					
2.1 Land use	2	2			
2.2 Demography	2	1			x
2.3 Climatic conditions			2	1	x
2.4 Environmental strains			2	2	
2.5 Crime			2	1	x
2.6 Traffic accidents	2	2			
2.7 The built form	2	1			x
2.8 The street space	2	1			x
2.9 Furniture	2	1			x
2.10 Vegetation	2	2			
<b>3. Functional requirements:</b>					
3.1 Commerce			2	1	x
3.2 Commercial services			2	1	x
3.3 Culture			2	2	
3.4 Public services			2	1	x
3.5 Cars	2	2			
3.6 Parking			2	1	x
3.7 Public transport			2	1	x
3.8 Pedestrians	2	1			x
3.9 Cyclists	2	1			x
<b>4. Dimensional parameters:</b>					
4.1 Pedestrians	2	1			x
4.2 Type of vehicles	2	2			
4.3 Way of driving	2	2			
4.4 Traffic load	2	2			
4.5 Traffic allocation	2	2			
4.6 Lane distribution	2	2			
4.7 Trip distribution					
<b>5. Alignment parameters:</b>					
5.1 Horizontal curvatures	1	2			x
5.2 Vertical curvatures	1	2			x
5.3 Sight	2	2			
5.4 Slope	1	2			x

**Table 11.1:**  
Road- and street planning premises  
differentiated into the following categories:

**1: Not important**

**2: Important**



***The street as an extended road notion***

Part E: Summary and Recommendation (Chapters 10 & 11)

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The above diagram (Tab 11.1) is a subjective summary of the discussion in Section 11.4. The table shows the distinct difference between premises for road planning and premises for street planning and indicates clearly that road-planning and street planning in fact are two dissimilar disciplines. As the overall and dimensional parameters are described as equally important for both roads and streets, the other parameter categories diverge. The local identity parameters and the functional parameters are, as indicated, generally important for all types of urban areas but partly insignificant for rural areas. Furthermore, the alignment parameters, the prior design premises for road design, are irrelevant for street design as there are the existing building blocks and urban topography that determine the horizontal and vertical curvatures of the street rather than the optimal way of driving.

## 11.5 Methodology Assessment

The UL program (described in Chapter 5), providing the methodology used in this thesis (although with a supplementary part as described), was by far the largest research program to assess urban life ever to be accomplished in Norway. Approximately 50 people were involved to realize the program. Naturally, such extensive program would never have been initiated for the sole purpose to support a PhD study. Thus, such studies have to employ existing methodologies. However, it was my initial intention that the program should proceed after the publication of the study reports, both practically (by registering the after-effects of the planned and never realized rehabilitation plans) <sup>E36</sup> and scientifically. A PhD-study could be an appropriate first step to realize the latter intention.

The methodology used in the UL program derives from the design methodology by Jan Gehl. This is described in Section 4.6.2 (Part B), and developed by Gehl subsequent to his book “Life Between Buildings”. Professor Ola Bettum and myself visited Gehl in Copenhagen to agree on the permission to use it and how it could be optimally adapted to meet the intentions of the UL program. The structural separation into three parts, a location appraisal, a registration of actual street use and interviews, were directly adapted. The content of each part is, however, altered and supplemented to become more applicable for the assessment of streets with motorized traffic.

Consequently, the methodology used in this thesis is not designed for the purpose to confirming or refuting the two presented hypotheses of this thesis:

- *A motorized traffic volume does not restrict social street activity.*
- *Architectural attractiveness contributes insignificantly to social street activity.*

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<sup>E36</sup> *As mentioned, all the selected registration areas had plans for rehabilitation; Strandgaten in Bergen is the only one where the plan has been realized.*

What this thesis has done is to use the UL program methodology to attain the available registrations and a supplementary methodology, introduced by this thesis, to analyze them. What would have been an optimal and ideal methodology to confirm or refute the presented hypotheses is an object for a separate study. However the analysis and the conclusions in this thesis have revealed the potential to improve the methodology to specifically assess social streets.

As described in Chapter 5 (Section 5.1) the UL methodology is divided into three parts:

- The first part, “**Premises for Social Street Activity**”, includes a registration of the physical quantitative and qualitative characteristics of the specific street / square, with emphasis on qualitative conditions.
- The second part, “**Factual Street Use**”, includes a registration of the factual use of the street, comprising car traffic, public transport, cyclists and pedestrians.
- The third part, “**Characteristics of Social Street activity**”, includes a registration of the attitude of city use through interviews.

### **11.5.1 Premises for Social Street Activity**

This part of the UL methodology is, as described above, a location appraisal or a registration of the physical quantitative and qualitative characteristics of the specific arena and its surroundings. This part of the methodology is general, including the following aspects of the street:

- A. General conditions** at a regional, local and detailed level.
- B. Street character** at a local and detailed level.
- C. Offers** at a local and detailed level.
- D. Accessibility** at a local and detailed level.

## **General conditions**

In order to improve the first part of the methodology this thesis has not revealed any points of improvement with regard to general conditions. It has been argued that the appraisal of the particular street should include a wider area to better include what overall structural elements could affect the street, such as the position of the street in a particular transport system or in a specific urban structure. Such supplements will, however, not improve the methodology in order to more optimally assess social street activity.

## **Street character**

To be able to improve this part of the methodology, the registration of “street character” could for instance include a section about how the physical environment actually was visualized on a non-professional level, for instance using the “mental mapping” methodology by Kevin Lynch. Appraisals of the character of the physical environments are without exception executed by professionals, mostly by landscape architects or architects, most probably providing a different assessment than that of a common street user. Such appraisals might be supplemented with interviews.

There are many studies on the subject “Environmental Aesthetics”, providing a methodological approach about how to assess the aesthetical quality of the physical environment. Professor Birgit Cold is the Norwegian pioneer. Furthermore, there are several methodologies to appraise the architectural characteristics of streets apart from the one presented in “Byens uttrykksformer”, a book by Thomas Thiis-Evensen.

## **Offers**

Offers are an important factor to attract people to a certain urban location. A wide spectre of commercial offers and private and public services has been registered in the UL program. What is missing, however, is a registration of the specific types of

***The street as an extended road notion***Part E: Summary and Recommendation (Chapters 10 & 11)

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commercial and service establishments, what type of establishments are actually generating social street activities and to what extent a specific arena has been through commercial transformation. This is important because the character of establishments is in constant change, often from traditional shops like grocery trades into more commercial businesses such as real estate agencies, although the growing number of people might have compensated for the increasing number of people leaving the traditional street to go to the suburban shopping malls to do their daily purchase.

**Accessibility**

The UL program provides a feasible methodological approach to establish the accessibility habits of the respondents and the physical accessibility for walking, cycling and for motorized traffic including public transport. However, accessibility is a recurring, and apparently complicated subject with regard to how people actually find their way to a certain location. A typical example is the reluctance among commercial establishments to remove car parking at street level due to a strong conviction that all customers arrive by car. Simultaneously, the public transport companies are equally convinced that all visitors to the same street use their public transport, a fact that makes car parking superfluous. What is happening is that both institutions are preparing surveys to find out – with a questionnaire designed to provide the “right” answers. Accessibility is such an important premise for the design of streets that such appraisals have to be consciously and objectively prepared.

## 11.5.2 Factual Street Use

This part of the UL methodology is, as described above, a registration of the factual use of the street, comprising car traffic, public transport, cyclists and pedestrians. This part of the methodology is general, including the following aspects of the street:

- E. Car traffic**, including both traffic intensity and traffic patterns.
- F. Public transport** such as buses, trams, train, taxi and tube.
- G. Cyclists** such as transport cyclist and leisure cyclist, not necessarily differentiated in the UL program.
- H. Pedestrians** such as transport pedestrians and people performing recreation activities (such activities are termed as “pedestrian intensity” and “social street activity” in this thesis).

### Car traffic, public transport and cyclists

The UL program has attained registration figures for cars and cyclists, or rather motorized traffic volumes, from traditional and well-tested methodologies derived from Norwegian Public Roads Administration and the various city councils. Public transport is registered by the type of transport facilities and the location of stops

### Pedestrians

There are no scientifically developed methodologies to register pedestrian use. Both pedestrian intensity and recreation use are referred to as social street activity. A recommendation in this thesis is to design such methodology for the specific purpose of the study. The study by Appleyard is an example of such a specific purpose, and the applied methodology is feasible in its own right for a thorough appraisal of human interaction in streets. The methodology by Whyte is another appropriate example. What is lacking in the UL program might be the visual presentation of social street activity. This is emphasized by both Appleyard and Whyte in their presented studies,



providing the readers with excellent information. The two examples of plotting-diagrams from Oslo and Hamar, made by the UL program, are also illustrative examples to follow.

### **11.5.3 Characteristics of Social Street Activity**

This part of the UL methodology is, as described above, a registration of the attitude of city use through interviews:

- I. Local background information**, including time of year, month and day and weather conditions.
- J. Personal information**, including type of household, age, sex, occupation, place of residence and place of work.
- K. Social street activity specification**, including the object for the visit, the type of social street activity, the duration of the activity performed, the sense of security and what features of the physical environment that are most appreciated.

Just as with pedestrians in the Factual Street Use section, there are no scientifically developed methodologies to register the attitude of city use.

#### **Local Background Information and Personal Information**

Registration of local background information and personal information is specific and general, although feasible information, to satisfy the purpose of the study, has to be included in the questionnaire.

#### **Social Street Activity Specification**

This section of the UL program methodology is the one that has been prepared most thoroughly. After being initially produced it was sent to TØI <sup>E37</sup> for assessment. As

***The street as an extended road notion***

Part E: Summary and Recommendation (Chapters 10 & 11)

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indicated in Section 11.5.1 one can design a questionnaire to receive a desired response. Furthermore, the selection of respondents is subjective and highly decisive for the result. The factors to determine the social street activity specification were as follows:

- a) The object of the visit
- b) Appreciated features of the physical environment
- c) The sense of well being
- d) Type of social street activity
- e) Duration of the activity performed

Factors a, d and e are factual, and factors b and c are subjective information with the response being very much dependent on how the questions are phrased and of course how each individual interprets the questions. With regard to how people appreciate various features of the physical environment and whether people actually feel well in a certain physical setting both with regard to traffic strain and crime, there are numerous studies, such as:

- Jane Jacobs with attention focused on the lack of well-being among people due to an inhuman physical environment and a discussion of how this could be prevented.
- Donald Appleyard with attention focused on the lack of well being among people due to unbearable traffic strains and a discussion of how this could be prevented.
- Oscar Newman with attention towards how the physical environment could provoke crime and poor living conditions and a discussion of how this could be prevented.

Relevant literature and studies should be assessed and included in the preparation of relevant questionnaires in order to attain the optimal response to a specific study topic. This necessarily is a thorough and time-consuming process, which is probably the main reason why most planners fail to do such work.

## 11.6 Factors that generate social activity

Chapter 11 has assessed the applicability of the presented physical planning premises as contributing factors to create social activity in streets. There is a conclusive assertion that they all are important although to various extent according to general and situational conditions. As a final summary of factors, the results registered by the UL program and the discussion in Section 11.2 and 11.3 indicate that:

- The more applied functions the street has to offer, the greater the social activity.
- Commerce, or the total number of shops, create variation in the use of the street and consequently represents a generating factor towards social activity.
- Service offers generate social activity.
- Restaurants, cafés and other catering facilities generate social activity.

### 11.6.1 Functions

Within the category “functions” four key factors are considered to have influence on social activity. These are offers, services, restaurants, cafés and other catering facilities.

#### Offers

Offers are one of the key factors to generate social activity. The suburban shopping malls have realized that a wide range of shopping facilities and extreme accessibility including free parking are not enough to attract costumers. Most shopping malls are therefore also arenas for recreation and amusement with cafés, restaurants and miniature fun fairs. Consequently shopping malls have become more a destination for family outings rather than a convenient facility to undertake necessary purchases. What the shopping malls in fact do is to transfer the characteristic of the public street, namely its multifunctional versatility, into a private sphere. But the public street is far more distinctive. The street represents a conglomeration of elements including for

instance city history, a wide spectre of architectural features and symbols and a feel of belonging within a public and democratic space, features that shopping malls attempt but fail to offer. However, instead of taking this uniqueness of the public space for granted, the shop owners and the other users who attend to the various functions of the street should promote it as an essential asset. Shop owners within the public street are usually associated with local commercial associations. Some associations underestimate the uniqueness of the street as an arena of adventure, and furthermore lack the thorough organization and cooperation that is the key factor for the success of the shopping malls.

## **Services, restaurants, cafés and other catering facilities**

Services, restaurants, cafés and other catering facilities have always been important factors to generate social activities in streets and within the urban public space in general. Such facilities have bloomed within most Norwegian city centres during the last three decades, and their expansion is in fact the symbol of the urbanization process in the country. Catering facilities are inviting people to stay within the urban space for longer periods intentionally or unintentionally. Consequently they are essential generators for social street life, especially if the facilities can offer an outdoor service. Out-door service has been highlighted lately after the so-called non-smoking law restricts the public to smoke in public indoors arenas (such as cafés and restaurants). Thus the law will unintentionally promote outdoor activity and increase the need for outdoor services at street level.

### **11.6.2 Accessibility**

As accessibility is the major asset for the vitality of the shopping malls with free car parking and closeness to the major transportation routes, it is also another key factor to endorse social activity in streets. This fact is emphasized by the URL-project. Accessibility is linked to easy access to a particular street, easy access within the

particular street and easy access to the surrounding area and to adjacent places of interest. The importance of accessibility as a social generator is as follows:

- the accessibility of cars within the street does not seem to be of decisive importance to social activity; the accessibility for cars to the city centre seems to be more important.
- the accessibility for public transport has a great significance for social activity.
- the accessibility for pedestrians to and within the city centre is of decisive importance to social activity.
- the accessibility for bicycles is less important to social activity than the accessibility for pedestrians.
- closeness to the main shopping area in the city centre is of vital importance to interpret the level of social activity in the city centre.

### **11.6.3 Overall conditions**

Overall conditions will always have influence on social activity. Four conditions have been found to have particular effect:

- area use affects city life; the size of the area reserved for pedestrians, the number of shops and service facilities and the number of bus stops seems to affect the social activity.
- the weather conditions affects the so-called voluntary activities, such as strolls, visits to outdoor restaurants and leisure biking, while so-called necessary activities, such as visits to the food store, do not seem to be noticeably affected.
- heavy noise and a high level of air pollution do not seem to have any reducing effect in areas that can provide attractive offers to the public.
- traffic barriers (heavy traffic and fences) do seem to have an effect on the activity behaviour as it reduces the freedom of movement.

Conclusively, in order to strengthen the street as a commercial and social arena the street planner has to:

- **emphasize the manifold of activities in the street**
- **create good accessibility to and within the street**

***The street as an extended road notion***

Part E: Summary and Recommendation (Chapters 10 & 11)

---

- **reduce motorized traffic barriers to a level that it is subordinate to the social activity**



***The street as an extended road notion***

Part E: Summary and Recommendation (Chapters 10 & 11)

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## EPILOGUE

Creating social arenas is an ancient art. In fact, cities were once planned to promote human interaction as it was the very condition for their survival. Numerous books have been written by professionals to call attention to this fact. However, what I find intriguing is that the description of the quality of the true social urban arena, or rather the social inadequacy of the urban space designed by many current urban planners, are the non-planners. The Norwegian journalist Jan E. Hansen is one of these non-planners having been occupied by the wonders of urban spaces with social significance. His book “Hvis byen fikk bestemme”<sup>E38</sup> is a personal, not professional, interpretation of the characteristics of the city, enquiring why the Ullevål University Hospital has a more distinct appearance of a city than Sandvika, a blooming and consciously planned town outside Oslo. In his book he reflects about what a true social arena actually is:

*“For a social urban arena to deserve to be termed social, it has to be an arena for two occasional strollers to interact. To become such area, it has to have a spectre of attached establishments. Something has to occur, not only because of your actual presence, but because it is a place where other persons have every day doings. A place where two persons interact is not necessary a social arena, an urban space becomes a social arena when the private sphere encounter the public sphere. Despite being located within a street or within a square, the meeting spot cannot become a social arena without specific functions.*

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<sup>E38</sup> Hansen, Jan E.: “Hvis byen fikk bestemme”, J.W. Cappelens Forlag, Oslo 1995/ (“If the City could decide”)

***The street as an extended road notion***

Part E: Summary and Recommendation (Chapters 10 & 11)

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*In a qualitative sense, the city is simply a place where you can leave your home and immediately enter a social arena, not necessarily to meet people but to be able to fulfil your basic needs. The advantage of having good neighbours is not sufficient, there must be many places to visit close by. You must be able to buy a newspaper and a steak, a screwdriver and a tie practically within the same immediate area. You must be able to visit a bar, go to church, sit down or remain standing and you must be able to choose to talk or to keep quiet.* <sup>B39</sup>

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<sup>B39</sup> Hansen, Jan E.: "Hvis byen fikk bestemme", J.W. Cappelens Forlag, Oslo 1995 p

***The street as an extended road notion***

Part E: Summary and Recommendation (Chapters 10 & 11)

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***The street as an extended road notion***

Part E: Summary and Recommendation (Chapters 10 & 11)

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