



universität  
wien

# MASTERARBEIT

Titel der Masterarbeit

„Cycling in Urban Areas

Vienna towards a Cycling City“

Verfasst von

Alexandra Taxer, Bakk.rer.nat.

angestrebter akademischer Grad

Master of Arts (MA)

Wien, 2013

Studienkennzahl lt. Studienblatt:

A 066 855

Studienrichtung lt. Studienblatt:

Masterstudium Geographie

Betreuer:

Univ.-Prof. Dr. Heinz Faßmann



## ABSTRACT

Within this Master Thesis the subject area of cycling in urban areas was analyzed by focussing the three selected European cities of Vienna, Munich and Copenhagen.

As Vienna is a growing metropolitan area, traffic related issues already have to be faced since the invention of the automobile and it's plentiful use by urban citizens. Throughout the centuries, planners considered ways to organize and manage urban traffic systems by having different approaches, which could be experienced in Vienna, too. All these theories, plans and ideas had and still have influence on bicycle traffic and in recent times advocates state enhanced bicycle use for an increased bicycle traffic and a reduction of individual motorized modes of transportation which one significant and conductive factor for a sustainable city development and all it's accompanying advantages. It can be seen that European cities show different circumstances on cultural, juristic and structural level, which all can tackle planning for bicycle traffic. The challenges of cities' authorities is the consideration of local differences by not losing the set targets and adopting adequate measures to reach them.

The main focus of this thesis is set on the city of Vienna, which is currently experiencing an increase in bicycle use and an upswing in political awareness of bicycle traffic related problems and a rising willingness to react by adequate planning. A comparing view on Munich, as comparable city to Vienna, and Copenhagen as example for best practice in cycling issues on a cultural and political level can Vienna help to learn from these cities. They both show a higher cycling ratio in modal share than Vienna. Therefore the three cities had been analyzed regarding modal share, cycling policies and the ways of planning for cycling. Within the field of policy transfer as conductive process for advancement of transportation issues the question after transferrable components in planning could be answered and last but not least recommended actions for advancement of bicycle traffic issues are stated.

## ZUSAMMENFASSUNG

Die vorliegende Masterarbeit befasst sich mit der Analyse der Thematik Radfahren in urbanen Räumen, welche mit dem Fokus auf die drei ausgewählten Europäischen Städte Wien, München und Kopenhagen durchgeführt wurde.

Als wachsende Metropole muss sich Wien spätestens seit der Erfindung des Automobils und dessen massenhafter Verwendung durch die Stadtbewohner, den Fragestellungen, die mit dem wachsenden Verkehrsaufkommen einhergehen, stellen. Seit Jahrzehnten befassen sich Planer unterschiedlicher fachlicher und ideologischer Zugänge mit Lösungen, die urbane Verkehrssysteme organisieren und strukturieren sollten, was auch in Wien erkennbar ist. Unterschiedliche Theorien, Pläne und Ideen hatten und haben nach wie vor großen Einfluss auf Radverkehrsthemen und seit kurzer Zeit setzen sich Befürworter für mehr und verbesserten Fahrradverkehr und eine Reduzierung des motorisierten Individualverkehr ein, um nachhaltige Stadtentwicklung und alle damit einhergehenden positiven Begleiterscheinungen voranzutreiben.

Europäische Städte weisen unterschiedliche Eigenschaften in kultureller, juristischer und struktureller Hinsicht auf, die alle Einfluss auf die Radverkehrsplanung nehmen können. Die Herausforderung für die Stadtverwaltungen und Behörden besteht in der Berücksichtigung der lokalen Unterschiede bei gleichzeitiger Fokussierung der gesteckten Ziele und Umsetzung von adäquaten Maßnahmen um diese zu erreichen.

Das Hauptaugenmerk dieser Masterarbeit liegt auf der Stadt Wien, welche seit kurzer Zeit einen rasanten Anstieg des Radverkehrsanteils im Gesamtverkehrsaufkommen und einen Aufschwung politischen Bewusstseins für Probleme, die den Radverkehr betreffen, sowie eine wachsende Bereitschaft für planerisches Handeln diesbezüglich erfährt. Ein vergleichender Blick nach München, eine mit Wien vergleichbare Stadt, und nach Kopenhagen, eine Stadt, die auf kultureller und politischer Ebene als best practice Beispiel in Radfahrangelegenheiten dient, kann Wien helfen von diesen Städten zu lernen. Sie beide weisen einen höheren Radverkehrsanteil als Wien im Modal Split auf. Hierfür wurden alle drei Städte hinsichtlich des Modal Split, Radverkehrsstrategien und Strukturen hinsichtlich der Radverkehrsplanung analysiert. Innerhalb des Themenbereiches der Politikübertragung bzw. des Austausches von Strategien als förderlicher Prozess, um Probleme und Fragestellungen des urbanen Transportwesens zu verbessern wurde die Frage nach tatsächlich übertragbaren Komponenten in der Planung beantwortet. Als letzter Punkt wurden Handlungsempfehlungen für die Stadt Wien gegeben, die auf Verbesserungen in den für den Radverkehr relevanten Fragestellungen und Problemen abzielen.

# TABLE OF CONTENTS

1 INTRODUCTION AND HISTORICAL ABROAD	13
1.1 Research Question.....	15
1.2 Methodology .....	17
1.3 Setup of this Thesis.....	17
2 CITY CONCEPTS – URBANISM AND TRANSPORTATION	18
2.1 Segmentation of European Cities.....	18
2.2 Charta of Athens.....	19
2.3 The Car Friendly City.....	20
2.4 The Multifunctional and Compact City .....	23
2.5 Shared Space .....	24
2.6 Concluding Statement .....	26
3 COMPONENTS OF PLANNING FOR CYCLING IN URBAN AREAS	26
3.1 Bicycle Culture.....	27
3.1.1 Definition.....	27
3.1.2 Attributes.....	27
3.1.3 Local Differences .....	28
3.1.4 Requirements and Tools.....	30
3.1.5 Social Meaning of Bicycle Culture.....	32
3.1.6 Aim of developing a cycling culture.....	34
3.2 Who is planning for whom? .....	34
3.3 Social Impact – Society and Community.....	36
3.4 Government, Politics, Administration – Policies and Legislation.....	37
3.4.1 The European Part – EU Legislation, Policies.....	38
3.5 Economic Significance .....	40
3.5.1 Construction Costs.....	41
3.5.2 Transport Efficiency.....	42
3.5.3 Cyclist's Health and Fitness .....	43
3.5.3.1 Economic Values of Health Issues .....	44
3.5.4 Economic Values in the Employment Sector.....	45
3.6 Physical Provision – Built Infrastructure and Facilities.....	46
3.6.1 Principles for Cycle Routes.....	47

3.6.2 Integrative or Separative? .....	47
3.6.3 Storage and Theft Prevention.....	52
3.6.4 Bike Sharing.....	58
3.6.5 Intermodality.....	60
3.7 Safety and Security.....	61
3.8 Marketing and Promotion.....	65
3.9 Environmental Protection and Ecological Reasons.....	66
3.9.1 Going Green, Sustainability and E-Mobility.....	67
 4 THE CITIES .....	69
4.1 Cycling in Copenhagen.....	70
4.1.1 Modal Share Copenhagen.....	70
4.1.2 Who cycles When and Why? .....	72
4.1.3 Copenhagen Strategies and Policies.....	73
4.1.3.1 'Eco Metropolis'.....	73
4.1.3.2 Cycle Track Priority Plan.....	74
4.1.3.3 Bicycle Strategies – from 2002 to 2025.....	74
4.1.4 Planning for Cycling in Copenhagen.....	76
4.1.5 Cycle Network Copenhagen.....	77
4.1.5.1 Financing.....	78
4.2 Cycling in Munich.....	79
4.2.1 Modal Share Munich.....	79
4.2.2 Who cycles When and Why? .....	80
4.2.3 Munich's Strategies and Policies.....	81
4.2.3.1 Traffic Development Plan – Cycling (VEP-R).....	81
4.2.3.2 Bicycle Traffic in Munich – A Resolution.....	81
4.2.3.3 Marketing - Bike Capital Munich.....	82
4.2.3.4 Charter for Bicycle Parking.....	83
4.2.4 Planning for Cycling in Munich.....	84
4.2.5 Cycle Network Munich.....	85
4.2.5.1 Financing.....	85
4.3 Cycling in Vienna.....	86
4.3.1 Modal Share Vienna.....	86
4.3.2 Who cycles When and Why? .....	90
4.3.3 Viennese Strategies and Policies.....	90

4.3.3.1 Coalition Paper between Red and Green.....	91
4.3.3.2 Traffic Master Plan.....	91
4.3.3.3 Climate Protection Program.....	93
4.3.3.4 Resolution – Cycling in Vienna.....	94
4.3.3.5 Promotion and Advertisement.....	95
4.3.4 Planning for Cycling in Vienna.....	96
4.3.5 Cycle Network Vienna.....	100
4.3.5.1 Financing.....	100
5 POLICY TRANSFER IN THE FIELD OF CYCLING	101
5.1 Best Practice.....	101
5.2 Policy Transfer .....	102
5.3 Travel Plans.....	104
5.4 European Role Models – What Vienna can learn.....	108
6 SOLUTIONS FOR VIENNA – RECOMMENDED ACTIONS	109
6.1 Awareness Raising.....	110
6.2 Administration.....	111
6.3 Infrastructure.....	112
6.4 Concluding Recommendations.....	113
7 CONCLUSION	114
8 BIBLIOGRAPHY	117
APPENDIX I – EXPERT INTERVIEWS AND TRANSLITERATION	119



## LIST OF ILLUSTRATIONS

<i>Figure 1: From hippodamic to organic scheme of planning (Source: Reichow 1959, 25)</i>	21
<i>Figure 2: Road network of Steinbüchel (Leverkusen, Germany) (Source: Reichow 1959, 30).....</i>	21
<i>Figure 3: Road network for automobiles, pedestrians and cyclists – Steinbüchel (Leverkusen, Germany) (Source: Reichow 1959, 30).....</i>	22
<i>Figure 4: Example for Shared Space in the Netherlands (Source: Hamilton-Baillie 2008, 170).....</i>	25
<i>Figure 5: 'The photo that launched a million bicycles' (Source: <a href="http://www.flickr.com/photos/16nine/297307637/">http://www.flickr.com/photos/16nine/297307637/</a>).....</i>	33
<i>Figure 6: Result of a 30% increase in cycling – England (Source: SQR 2007, 55).....</i>	40
<i>Figure 7: Speed of cycling in urban environments in comparison to other modes of transportation (Source: Löschenbrand 2012, 45).....</i>	42
<i>Figure 8: Ratio for the risk of cyclists in traffic (Source: ADFC Forschungsdienst Fahrrad 1992, 3).....</i>	49
<i>Figure 9: Overview – motorists and cyclists sharing the road (Source: <a href="http://floridabicycle.org/drive-your-bike/">http://floridabicycle.org/drive-your-bike/</a>, access: 10.05.2013).....</i>	50
<i>Figure 10: So called “Rim-Killer” (Source: ARGUS 2007, 22).....</i>	52
<i>Figure 11: “Wiener Bügel” (Source: <a href="http://www.wien.gv.at/verkehr/radfahren/mobil/abstellenanlagen.html">http://www.wien.gv.at/verkehr/radfahren/mobil/abstellenanlagen.html</a>, access: 10.05.2013).....</i>	52
<i>Figure 12: Sheltered and safe parking facility in front of a school, Vienna (Source: ARGUS 2007, 17).....</i>	53
<i>Figure 13: Example of Bike Boxes and the bike garage in Vienna .....</i>	54
<i>Figure 14: Examples of Bike Boxes and the bike garage in Vienna .....</i>	54
<i>Figure 15: 'Safety in Numbers' (Source: European Cyclists' Federation(ECF) n.y., 2) .....</i>	60

<i>Figure 16: Modal Share Copenhagen – All Residents (Source: Own illustration. Cp. City of Copenhagen 2011a, 6).....</i>	<i>67</i>
<i>Figure 17: Modal Share Copenhagen – Copenhagen Residents Only (Source: Own illustration. Cp. City of Copenhagen 2011a, 6).....</i>	<i>68</i>
<i>Figure 18: Intersection of a Green Cycle Route and a common road, Copenhagen (Source: Photo by the author).....</i>	<i>74</i>
<i>Figure 19: Modal Share Munich (Source: Own illustration. Cp. Institut für Raumentwicklung und Kommunikation 2011, 9).....</i>	<i>76</i>
<i>Figure 20: Modal Share Vienna (Source: Own illustration. Cp. Wiener Stadtwerke 2013).....</i>	<i>82</i>
<i>Figure 21: Viennese Choice of Transport mode from 1993-2012 (Source: Wiener Stadtwerke, 2013).....</i>	<i>83</i>
<i>Figure 22: Pentagon of Smart Mobility (Source: Stadt Wien 2006, 10).....</i>	<i>86</i>
<i>Figure 23: Logo Fahrrad Wien (Source: <a href="http://www.fahrradwien.at/wp-content/uploads/2012/09/logo_fahrradwien.png">http://www.fahrradwien.at/wp-content/uploads/2012/09/logo_fahrradwien.png</a>, access: 01.06.2013).....</i>	<i>90</i>
<i>Figure 24: Organization Plan of Cycling Related Institutions within the City of Vienna (Source: Own illustration. Cp. Hager 2013, transliteration 2, 35-46).....</i>	<i>91</i>
<i>Figure 25: Attributes of different Travel Plan Groups/Networks (Source: Travel Plan Plus 2009, 18).....</i>	<i>100</i>

## Preamble

As Viennese citizen and cyclist who uses the bicycle for daily ways I started to ask myself where Vienna will go concerning it's traffic system and concerning it's cycling issues in the near future.

There can be seen two personal motivators for working on the topic of cycling in urban areas. First motivator was a quite practical one, by being confronted with problems and situations on my daily ways made by bike, which can be seen as results of a certain way of planning on different levels as well as the general attitude and behavior of street participants in Viennese traffic. Second motivator was an internship in 2011 which lasted five months, where I participated as volunteer at the MA 18, the department for city planning and city development in Vienna, which also is part of the research and planning group for bicycle traffic. There I was able to get a view from inside, how planning processes and communication take place within the city's administration and who are the participating stakeholders.

All in all it can be seen that research on the topic of cycling in urban areas and the development of sustainable traffic systems in cities is a quite young and growing field. Here, the most interesting and decisive factor is the certain mixture of society and culture, practical planning issues and the political level in this field.

This paper is the outcome of daily experienced situations in bicycle traffic of Vienna, combined with the multidisciplinary approach and interest focussed on social sciences, which I as a geographer and urbanist tend to have.

At this point, I want to acknowledge everybody who supported me throughout my time as a student in Salzburg and Vienna and in managing all challenges I had to experience on my way. Special thanks are given to my brother Markus, who supported and encouraged all of my decisions as well as enriched thoughts and ideas through the critical eyes of an architect and older brother. Further I want to acknowledge Gerhard Hatz who supported and attended me throughout the whole time of accruelement of this thesis.

Vienna, September 2013



# 1 INTRODUCTION AND HISTORICAL ABROAD

More than 50% of the world's population live in urban areas, in cities. Sociologists, Geographers, Architects and Planners therefore are talking about urbanization. On the one hand urbanization means the increase, extension and enlargement of cities itself concerning their quantity, surface or population. On the other hand urbanization can be the enhancement of urban ways of living, urban economies and urban behaviors, which does not have to be connected to a city necessarily and is also able to be existing in rural areas. (Cp. Bähr 2011, 1) Significant attributes of urban areas are centrality, population density and housing density, also certain social and economic attributes make a city to what it is. The way cities look like couldn't be more different, as the world's continents, regions, cultures, societies and histories are. Basic designs of cities are shaped by ancient cultures and ideologies, historical inventions and events. This means visual appearance and the way streets and buildings are arranged and look like, parks and places for recreation are located and also how transportation and mobility is managed. Regarding to this, European cities follow certain models concerning structure, usage and functionality. In the years of 1900, the character of a European city concerning social life, no matter which class one belonged, can be described as disjunctive regarding to public and private space. Streets and intersections served as places to meet and to communicate for pedestrians, also caused by narrow living conditions of the population. Segmentation was characteristic for cities and street life happened in smaller scales, which is quite different to today's urban lifestyles. The indicating and significant power of city development was human scale and the speed of locomotion which was defined by pedestrians and cyclists (cp. Schopf & Emberger 2013, 5). Over the time, during the rise of industrialization all over Europe, requirements of citizens on traffic systems went through different kinds of developments, which had also influence on cycling. Here, the crucial point is the change of transportation manners made possible by technological progress in this field. The invention of automobiles hit cities first and changed ways of mobility and transportation rapidly. Transportation systems of urban areas represent a significant aspect of how sustainable cities are today as well as in the past. The grade of motorization and the demand of mobility in cities grew very fast since the invention of the automobile and the enhancement of public transportation systems in many European cities and sustainability was the last to think about.

Around 1900 and earlier, cars were affordable only for upper class citizens. The percentage of automobiles as mode of transportation was very low, the dominating and common modes of transportation were walking, cycling and public transportation. Nevertheless automobiles seemed to be on the rise and drivers founded lobbies and clubs for automobiles and their usage. The aim was to make car traffic more effective, especially in urban areas, and to be able to drive without any breakdown. Intersections and especially the short distances between them, caused by the way of how blocks and buildings looked like in this period of promotorism, have been understood as handicap for comfortable driving. But there was a lot of interaction, trading, playing and social life happening in the streets and very soon, even when automobiles represented a minority in urban traffic, heavy accidents happened. It seemed that this new invention was quite dangerous for this well known life in the streets. So in 1902 the first obligations and guidelines for human behavior in German streets were implemented. Only a short time later first traffic signs have been installed - five of them on international level. (Cp. Holzapfel 2012, 33)

During the centuries, in Europe especially in the 1940's and after the second world war, mass production and Fordism found it's way into the cities. This led, amongst other factors, to an increase of individual motorized traffic volume in the streets and to more conflicts with other modes of transportation. The demand for a bigger solution was born, city planner and architects, e.g. Hans Bernhard Reichow, invented concepts for car driving without a hindrance in urban areas. This was the idea of the "Car Friendly City" (Cp. Reichow, 1959), which was based on the 1933 developed "Charta of Athens". This increase of individual motorized traffic volume led to a change of the previous functions of streets. Pedestrians and street life were displaced to certain "islands" in the streets, the function of streets changed to driving surfaces, where pedestrians were not invited and allowed to stay and stopover. Places of human interaction in the streets have been reduced and disappeared continuously.

Later on, planners and activists of the 1970's, like the Viennese planner Victor Gruen, started to recognize that this way of planning and thinking for urban traffic systems can lead to problems and conflicts in many ways. The time of reconsideration of "old" manners of planning and living in cities has begun and slowly voices of alternative thinking got louder. People started to argue against ongoing appropriation of streets by individual motorized vehicles, first because of ecological and health reasons and second for spatial and social reasons. (Cp. Holzapfel 2012, 78, ff.)

After some decades planners tried and still try to get back urban space for everyone, to stop and to avoid segregation of vehicular and pedestrian traffic and to recollect former ways of how cities used to work - to recollect segmentation in cities, to use urban space for interaction and communication, what it used to be.

Now, in the years of 2010, this 'green' movement from the 1970's has turned to a life-style and political issue.

In recent years many European cities and societies - some more than others - show how rethinking of supposed 'old' and 'traditional' manners, which means the automobile as the only mode of transportation in urban areas, can be implemented by different measures. Now there can be seen visible effects on trends and developments of inner urban traffic in many European cities and cycling has become a growing mode of transportation in urban areas in recent years and there can be seen new trends in society and politics regarding cycling and planning for cycling.

Planning for cycling and the enhancement of bicycle traffic and alternative modes of transportation does not mean to ban the automobile and other individual motorized vehicles from inner urban areas, but to reduce individual motorized traffic volume, greenhouse gases, to enhance sustainable modes of transportation and to recreate cities and places of interaction and communication for development of sustainable environments in cities.

## 1.1 RESEARCH QUESTION

This paper will focus on urban traffic management and cycling issues in the cities of Vienna, Copenhagen and Munich.

Cycling in Vienna is obviously a growing mode of transportation, as statistics and daily experience show. On the one hand the question is, how the city's authorities, planning institutions and other participating stakeholders will react to this fact. On the other hand there is the aim of further enhancement of cycling in Vienna, as this can be seen in current policies as well as in the governmental coalition paper, where a significant increase of cycling ratio in modal share is targeted (cp. Stadt Wien 2010, 62). At the moment there are many involved and interested stakeholders who want to participate on cycling issues for different reasons.

As there can be identified cycling related problems on different levels, the main target of this paper is to work out alternative strategies and solutions for the city of Vienna re-

garding the increase of bicycle use and bicycle culture through providing adequate circumstances in planning so that usability can be seen as the main argument for citizens to change manners of transportation in a sustainable way.

This paper and the included questions of research will find alternative strategies and solutions for the city of Vienna and its society to enhance cycling as alternative mode of transportation and to develop and enhance new urban culture of mobility – a culture of cycling in the city. When having a closer look on the already existing cycling community and cycling culture in Vienna at the moment, there is a request of stronger political and social awareness regarding cycling issues.

The main question is how Vienna can boost and increase the current development, to grow transportation habits for cycling and to reduce individual motorized traffic volume in the metropolitan area.

Therefore the cities of Munich and Copenhagen are targeted as well.

Munich can be seen as comparable city to Vienna regarding its basic structures and circumstances, which tackle spatial extent, development of public transportation and population. Though, Munich shows a higher cycling ratio in modal share as well as it has different approaches in planning and policy making. Copenhagen is targeted in this thesis because it shows one of the highest cycling ratios in modal share all over Europe and serves as example of best practice, regarding city development, policy making, planning for cycling and cycling culture.

All three cities target further enhancement of cycling and the creation of sustainable city development in order to traffic management. The differences between these cities are the ways of how to get there by considering local differences on a cultural and political level.

The questions of research of this thesis target the detailed explication of the current status quo regarding all relevant components of cycling in urban areas, with focus on Vienna, Munich and Copenhagen as well as the answering of the following defined questions:

- How can Vienna become a cycling city and on which levels do transformations have to happen?



- What can the city of Vienna learn from the cities of Munich and Copenhagen regarding bicycle policies and cultures.
- How can a process of learning in the field of cycling take place?

## 1.2 METHODOLOGY

The methods of research for answering the questions of this paper are discussed in the following. As a student of social sciences the used methods for this thesis contain research from an empirical approach in form of face to face interviews and interviews via e-mail with experts on cycling in the three targeted cities as well as visits and bike rides in the attended cities under device of “learning by doing”. Additional to this the analysis of convenient literature e.g. handbooks of planning for cycling, empirical studies and articles as well as statistics, governmental papers, juristic frameworks and information provided on platforms of the world wide web have been brought in and used.

## 1.3 SETUP OF THIS THESIS

After an historical abroad and discussion of question of research, the theoretical part will start with chapter 2 and the explanation of several city concepts which have been discussed in the past and in the present, as they have relevance for the current issue of cycling as mode of transportation and sustainability in urban areas.

Chapter 3 focusses on planning for cycling and all it’s relevant components and aspects to be considered for protagonists working on cycling issues in urban areas. Chapter 4 refers to cycling culture. As many European cities can look through a culture of automobiles and individual motorized traffic, not just in urban areas, the view from cycling and it’s existing, non existing and developing culture is near, also with comparable aspects of the three focussed cities. After this, chapter 5 will deal with the three treated cities. Facts, data, modal split, cycling policies and the way of planning for cycling, as well as the differences in the cycle networks of the targeted cities will be discussed. To continue with a comparable view, chapter 6 will provide insight in the issue of policy transfer in general and with focus on the field of transportation as well as a concrete relation to Vienna. Based on the won findings, concrete solutions for further development of a suc-

cessful management of cycling traffic issues and the accompanying positive effect on bicycle ratio will be discussed, before a general conclusion summarizes the main outcomes of the paper.

## 2 CITY CONCEPTS – URBANISM AND TRANSPORTATION

Holzapfel (2012, 9) defines the term urbanism as a holistic and widespread science, which includes social and economic affairs of urban processes of developments and lifestyles. Further he describes that the use of this term in relation to urban life is existing historically quite long, as Cicero already used the term 'urbanitas', "which characterized a smart and urban rhetoric and mode of interaction". Additional, transportation must be seen as significant part of urbanism.

This chapter will provide city concepts and ideas with correlation to traffic and transportation in urban areas, which have been declared, invented and/or implemented in the past and in the present. The development of different city concepts and the changing views of planners during the periods of time will be discussed. Generally it can be seen that they are all in connection with and effect bicycle traffic in urban areas, as the developments of traffic planning also show prioritizing of certain modes of transportation because of different reasons.

### 2.1 SEGMENTATION OF EUROPEAN CITIES

The first theme to mention is the segmented nature of cities which does not represent a concept itself which has been invented or implemented, but is a key to understand how cities of the 18th and 19th century worked and urban life looked like, primarily without individual motorized transportation systems or at least with a fraction of today's traffic volume. As Holzapfel (2012, 15, ff.) explains, this concept was and still is the result of specific architecture and social life, where the most important factor is the relation and connection of streets and (apartment)buildings, of public and private space which describes the relation of urbanism and transportation at the smallest scale. The most important issue is the fact, that transportation did not overrule the streets so that social life could happen in cities with a small scaled organization.

The predominant modes of transportation at this time were dominated by walking and cycling and there was no necessity for traffic management yet.

## 2.2 CHARTA OF ATHENS

With the Charta of Athens, the first plan of traffic management was implemented, as in the 1920ies industrialization was on it's rise.

After invention of automobiles and the rise of Fordism which allowed mass production and mobility for public domain individual motorized transportation systems became more important in cities. Especially long distance transport by automobile seemed to become more important than in the times before, which caused the necessity of wide arranged roads, where traffic could go more fluently.

In the year 1933 the Charta of Athens was developed as a solution for the precarious situation for inhabitants in cities at that time. Participating experts and scientists implemented the idea of disjunction of urban functions in cities. The separation of the functions living, working, recreation and also the separation of modes of transportation in cities was propagated and realized in planning acts and should organize urban life in a new and modern way. (Cp. Gruen 1973, 338 f.) Regarding to transportation it was clearly mentioned in the Charta, "that streets were (...) not compatible with areas for pedestrians (sidewalks) and communication. But it was the street which has been defined by communication over Millenniums" (cp. Holzapfel 2012, 37, own translation). The aim behind this idea was to calm and to dislocate traffic in and from residential areas, so that residents should have better living conditions with reduction of noise and pollution caused by traffic. (ibid.)

It is interesting to see that The Charta of Athens seemed to consider the fact that individual motorized traffic volume will rise rapidly at that time and tried to include optimal solutions for inner urban traffic. To build transportation systems for long distances and to provide driving surfaces for a flowing individual motorized traffic in urban areas was innovative for that time. Allowing for the pioneering work done with this Charta there has to be mentioned a critical view at this point. The question of leaving inner urban space for pedestrians to provide interaction and communication should have been included too. Disregarded seems the fact that citizens do have need for communication and therefor public spaces are needed. Planning at that time was planning for automobiles as engineered mode of transportation for the future of a modern society. At that time the

Charta of Athens was just one of the first planning acts where individual motorized traffic in inner urban areas was planned to be the ultimate mode of transportation. And within this planning, the management and integration of other modes of transportation, also cycling had not been considered at all, as the main focus was on enhancement of technological progress, that should be integrated in urban life.

### 2.3 THE CAR FRIENDLY CITY

As the use of automotive modes of transportation seemed to rule modern cities, planners like Hans Bernhard Reichow worked on a bigger solution for the rising traffic volume in the streets.

In 1959, Hans Bernhard Reichow developed a city concept called “The Car friendly City. A way out of traffic chaos” (german original: “Die Autogerechte Stadt. Ein Weg aus dem Verkehrs-Chaos”, note).

Reichows basic vision was an extended version of the ideas of The Charta of Athens, where automotive traffic urban areas should flow as fast and efficient as possible.

In his concept he describes the intersection as it's existing in a common way as the most dangerous and hindering element in cities. The concept considers traffic systems in cities and settlements at it's optimum as a flowing cycle. For Reichow (1959, 19, own translation) “the ideal has to be in accordance with organic nature of humans as well as with technical character of automobiles in the same way”.

For him the hippodamic scheme of city planning, which means streets and buildings are arranged as a grid, is not efficient, not safe and causes too much air pollution. As main reason he mentions the high number of intersections. The figure below shows how arrangements of streets and intersections should look like, to fulfill Reichow's requirements.

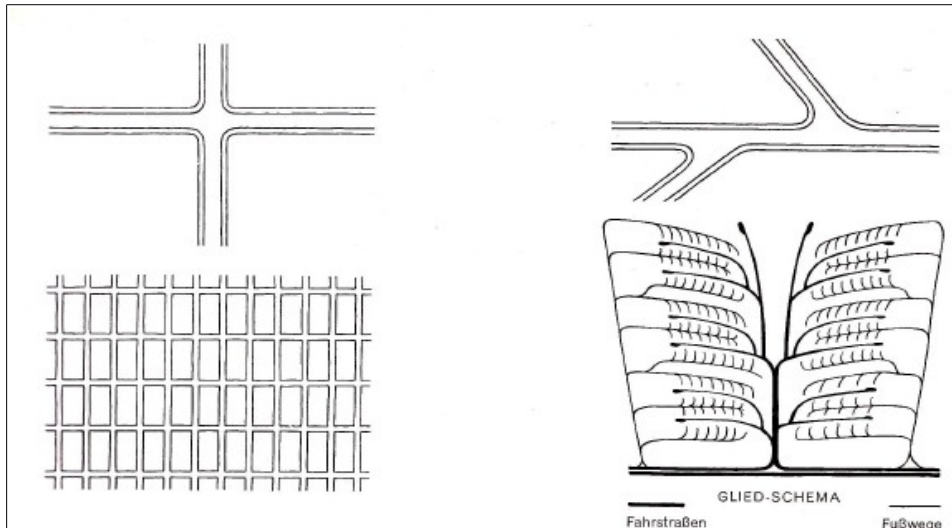


Figure 1: From hipodamic to organic scheme of planning (Source: Reichow 1959, 25)

The solution for Reichow is to modify already existing stock or -if new planning is necessary- arrange settlements and streets in an organic based way. It is clear, that the implementation of this concept ideally focusses on new built environment, as already existing physical structures of cities can not be modified easily.

Basically the goal is to avoid intersections to provide a flowing transport system, “(...) like the human blood circuit: in permanent slightly flow, without any congestion or collision” (Reichow, 1959, 19, own translation).

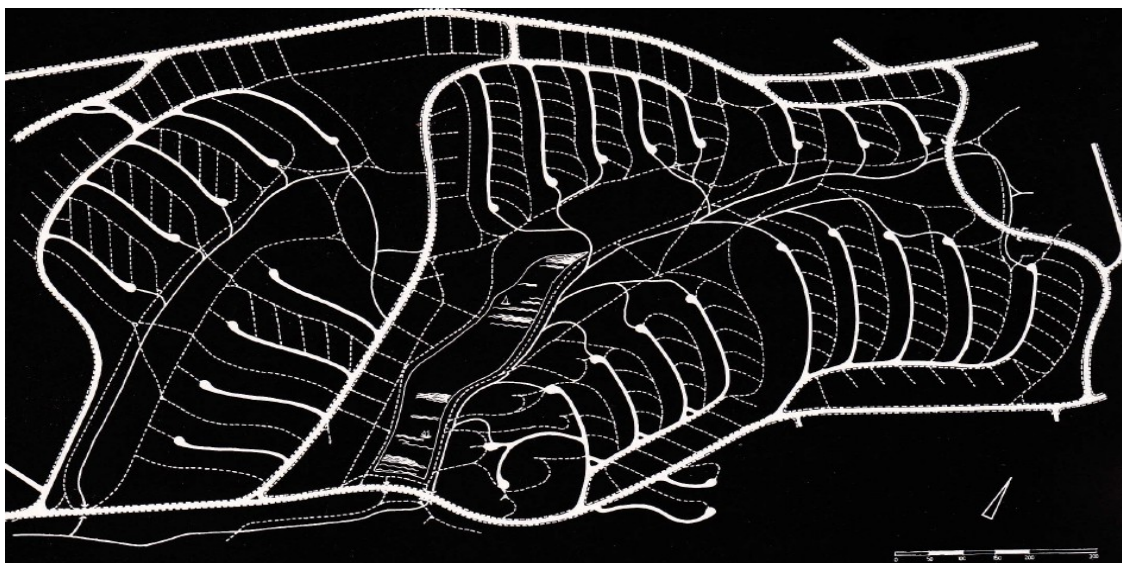
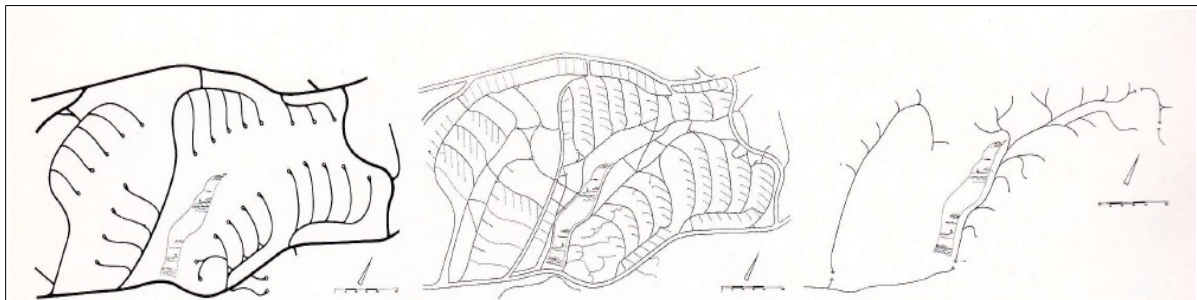


Figure 2: Road network of Steinbüchel (Leverkusen, Germany) (Source: Reichow 1959, 30)

Regarding to other modes of transportation, though Reichow mentions cycling and walking in his concept. He recognizes that these forms of transportation will also exist in his “Car Friendly City”. He sees that the increasing use and the high speeds automobiles will have in the streets represent a dangerous factor for other participants in the streets. As a solution he provides the idea of excluded cycling lanes and pedestrian areas in cities. He enhances the topic of disjunction, which was already mentioned in The Charta of Athens several decades before. For Reichow the existence of bike lanes and sidewalks, which are located in the same streets as driving surfaces of automobiles, is not (safe) enough. He postulates – mainly within planning and constructing new residential areas and settlements – completely excluded systems for bicycles and pedestrians as well as applied and car free areas for shopping, with the argument of safety and privacy for pedestrians. (Cp. Reichow 1959, 35)

The figure below shows – from left to right – the three different layers of road networks for automobiles, pedestrians and cyclists.



*Figure 3: Road network for automobiles, pedestrians and cyclists – Steinbüchel (Leverkusen, Germany) (Source: Reichow 1959, 30)*

Another principal of Reichow's concept which was propagated first in “The Charta of Athens” was the importance of street systems built for long distances. Regarding to Reichow's history and curriculum vitae it seems that especially the second world war and the post war period formed Reichow's way of planning, where distance and the connection and exchange with the rest of the world was an important factor.

As the concept of “The car friendly city” and the propagated ideas and visions seem to be quite irrational in today's times, Hans Bernhard Reichow had influenced plannings in an enormous way. (Cp. Holzapfel 2012, 43)

## 2.4 THE MULTIFUNCTIONAL AND COMPACT CITY

When discussing city concepts and historical developments of transportation systems, the compact and multifunctional city has to be mentioned, especially in connection with ideas of the Viennese planner Victor Gruen of the 1970's.

His paper "Das Überleben der Städte" changed the before established basic idea of the ideal city almost 50 years after the implementation of the Charta of Athens. (Cp. Gruen 1973)

Victor Gruen writes nearly in a revolutionary way, that "now we know that tools of technology can not just be used but also be abused" and that they are able to bring progress on the one hand but also can mean destruction of biological life on the other hand. Further he postulates: "We have to act under the conviction that technological tools should be servants but never be tyrants of humanity" (cp. Gruen 1973, 132). The difficulty in those day's planning may have been the fact that principles and baselines of planning were given by the Charta of Athens. Only a few observers started to recognize the problems and difficulties coming up with increasing technological developments in urban areas of cities and started to work on different kinds of planning and organizing cities in a new way.

The key idea of Victor Gruen was the principle of multifunctional urban centers, which means a withdrawal from the principles of the Charta of Athens.

For Gruen the solution and way of modern planning for cities was included in development of ecological friendly, mixed used, functional as well as social diverse urban environment. He describes multifunction as combination of several urban functions. When (city, -or shopping)centers contain functional and social diversity in form of existence of functions like shopping, education, employment, living, public services, cultural facilities, as well as access to these functions and facilities for everybody – no matter of class or origin - the centers can be called multifunctional.

The idea involved the development of multifunctional centers with high density and intensive land use at its best. Further considerations for traffic and transportation were included, where the main principles were represented through a minimization of individual motorized transportation and parking as well as enhancement of alternative modes of transportation, like public transport, walking and cycling. To implement these ideas, centrality and short distances could be seen as preconditions. (Cp. Gruen 1973, 132ff.) These attributes can be seen as conducive for any kinds of alternative modes of transportation, especially for the development of a cycling and walking culture.

As milestones of Gruens career and conversion of his basic ideas the invention of the “Wiener Charta” as opposite principle for planning to the Charta of Athens, the implementation of the first pedestrian area in his hometown Vienna as well as the invention of the first shopping mall in the USA can be seen.

## 2.5 SHARED SPACE

Following up to the already discussed city concepts, the concept of “Shared Space” will be illustrated, as this city concept represents an alternative and inclusionary way of planning.

The basic idea of Shared Space can be explained as a concept which reunites usage of public space by all modes of transportation. After the development of the Charta of Athens and the ongoing functional segregation in urban areas it was pioneers such as Joost Våhl from the Netherlands who was “searching for ways to reduce the impact of traffic on the qualities of social space and in particular, to prevent the decline in freedom of movement available to children”. As one method Våhl started to change road surfaces and traffic landscapes in a quite experimental way by removing road signals, barriers and markings in the streets. Soon other European countries like Denmark and France recognized the positive impact of Våhl's ideas and strategies for urban spaces and tried to allocate the concept. The roots of Shared Space may lay in the Dutch concept of the *woonerf* which can be translated as 'yard for living' and was implemented in 1976. It can be seen as the juristic obligation of Våhl's measures for rearrangement of the streets. The concept was defined to be used in housing areas only and was later on established as “Home Zones”. As Våhl's intention for his measures was to bring back street life, space for communication and interaction and social human behavior without governmental definitions and obligations to the cities, “the *woonerf* was merely just another category in the standard road hierarchy, (and) its use and popularity began to fade”. (Cp. Hamilton-Baillie 2008, 166ff.)

At the same time, in 1978, Hans Monderman, who was a traffic engineer from Friesland and appointed Head of Road Safety for the region, “began to experiment with simple design and landscaping measures that emphasized the distinctive history and context of each settlement, deliberately removing or downgrading highway measures such as road markings, signs, chicanes and road jumps” in the village of Oudehaske. Starting as experiment in villages, Mondermann soon recorded higher reductions of traffic speeds



than achieved with conventional traffic calming measures as well as reductions in accidents in the streets. In 1992 Makkinga followed by being “the first small town to remove every standard road sign, signal and road marking” and beside the fact that speed and accidents in the streets went down, a reduction of motorized traffic volume had been observed. Soon developments went further and planners as well as governments got increased confidence with Mondermann's schemes and first busy intersections and (shopping)streets in bigger cities in the Netherlands have been redesigned. (Cp. Hamilton-Baillie 2008, 167ff.)



*Figure 4: Example for Shared Space in the Netherlands (Source: Hamilton-Baillie 2008, 170)*

Looking at the early developments of the 1980ies in the Netherlands, implemented by Hans Mondermann, concerning public space shared by all modes of transportation based on Joost Vals ideas, the Dutch appear as pioneers in the field of Shared Space. Soon cities all over Europe followed the Dutch example and realized concepts of Shared Spaces. Especially northern European countries like Denmark and Sweden “developed the practice further than most countries, and shared space is now a widely accepted urban design principle in much of Scandinavia”. (Hamilton-Baillie 2008, 172,ff.)

Today the principles of Shared Space are well explored and contain basics to consider, like spaces for abundance and traffic as well as commitment of certain furniture or different materials for road surfaces which can serve as basic road markings and guidelines for street participants.

## 2.6 CONCLUDING STATEMENT

It is interesting to see the developments in planning for cities over the centuries. Considerations of how modern cities should look like and work started with invention and upsurge of automobiles and other motorized modes of transportation in early 1900 and they still go on because of nearly the same reason. Concepts with inclusion of technologies at all costs and exclusion of humanity and society at its principles up to concepts of reconsideration on social behavior appeared in recent centuries. Some more successful than others. The Charta of Athens surely is the most influencing concept when recognizing that its basic principles shaped the most European cities in the way they look like. Basically that is the principle they look like until today.

What we also can see at this point is the ongoing need of more sustainable, ecological and social ways of planning for our cities. The power of technological progress – in forms of automobiles or green energy – appears as driving force. The question is if this will be the key to operate with for planning our cities.

## 3 COMPONENTS OF PLANNING FOR CYCLING IN URBAN AREAS

After discussing general considerations regarding structures of urban areas and their correlation with cycling, the following chapter will argue with advantages and considerable components of cycling and planning for cycling in urban areas. What are the main arguments for taking a bicycle as mode of transportation in a city? And what are the components for citizens which make the bicycle unattractive for daily ways? What are the preconditions for successful bicycle planning and in which fields do planners and politicians have to face challenges?

### 3.1 BICYCLE CULTURE

At the beginning of this subsection it has to be mentioned that there is a lack of scientific research in the field of cycling culture in general. Though there are several blogs on the Internet as well as short articles on internet platforms. So the information for this chapter was required by those blogs, articles and platforms on the one hand and by expert interviews on the other hand.

#### 3.1.1 DEFINITION

According to the outcome of the authors research there are two types of definition for the term bicycle culture. Further the author mentions that the terms “bicycle culture” and “cycling culture” will be used synonymously in the following.

The first definition describes bicycle culture as a mainstream culture of travel in urban areas and requires the support of common and daily use of the bicycle. Utility and commuter cycling is a common way of travel for almost everybody, there cannot be seen any tendencies of certain groups who do not cycle at all, or way more than others. To take the bicycle is mainstream in every part of society. Therefore the urban environment can be seen as cycling friendly, adequate infrastructure and physical provision is provided as well as there is an apparent awareness by politics and planners.

The second definition describes bicycle culture as subculture. As many European cities are characterized by car-dominated societies and traffic systems, to choose cycling as mode of transportation is seen as statement, in sight of political movement on the one hand and lifestyle on the other hand. Cycling culture is also characterized by acting advocacy which can be political and/or derived from private initiatives, like NGOs or associations who try to enhance cycling through several measures and initiatives. In some cases this work is organized in cooperation with political stakeholders and their support. For stakeholders, advocates and activists, transition from first to second development is desirable.

#### 3.1.2 ATTRIBUTES

But what are the attributes of a bicycle culture and whereby is this form of traffic culture observable?

First attribute might be the different movements and values within cycling cultures. This comes out by different communities, which are getting apparent, no matter which above-named definition of cycling culture is predominating. The discourse is about Fixies, racers, mountain bikers, utility cyclists, commuter cyclists, to mention just a view.

Second gets visible in social arrangement of cyclists which is as broad as it can be. This means that there are neither socio-cultural nor socio-economical factors that are dominating. Ridership is represented by a uniform group of citizens. Though this does not exclude different cycling communities, as mentioned before, because they are a key issue and integral part of this uniform ridership, as not each and every rider has to be part of a certain cyclist community necessarily. They kind of form or compose bicycle culture in urban areas.

The third attribute to mention in this section is attitude of other street participants, who do not cycle regularly or never. Pedestrians, users of public transportation as well as motorists contribute to the existence and further development of a culture of cycling and are jointly responsible for certain sentiments in street traffic.

### 3.1.3 LOCAL DIFFERENCES

Historical developments of city planning in European cities had been quite different on a local level, which is getting apparent in today's state of the art as well. When comparing the three focused cities of this paper regarding to traffic systems and city development in the past and in the present, there can be seen certain tendencies. An historical and cultural overview of how traffic planning in these cities took place, allows deductive reasoning to today's systems. Whereas traffic culture in the cities of Munich and Vienna had been calendered by automobiles and other forms of motorized transportation since times of industrialization, it can be seen that the city of Copenhagen historically went through different developments, regarding to common habits of travel. The outcomes can be seen in today's modal share of the cities, which show different values of bicycle share in the streets. Copenhagen, as frontrunner in this comparison, is holding a share of over 30% cyclists, Munich about 17%, and Vienna about 6% (cp. Löschenbrand 2012).

The history of Viennese traffic and city planning shows that there is a long tradition for use of automobiles in the city. Construction of car-friendly environments, like big multi-lane streets and area-wide free parking facilities, especially near public institutions,

were supposed to be standard. In comparison with other European cities, Vienna was a city which traditionally showed big disregard in cycling issues, already since 1900. This became apparent all over the past decades, especially after second world war, where bicycle routes had been removed because of enlarging road surfaces for automobiles all over the cities, so that the remained amount of bike routes reduced from 50km after the war to 11km in the years of 1970. Whereas German cities, like Munich or Hamburg, featured a certain amount of bicycle facilities already in the 1970ies, Vienna reached this around 20 years later, in the years of 1990. Due to the fact that bicycles represented an important factor for the working class, the Viennese planning policy and public opinion manifested motorization of the working class as social and economical upgrade and enhancement of automobiles as mode of transportation went further. Last but not least public transportation represented and still represents an important factor in Viennese planning and policy culture, so that this mode of transportation can be seen as the second big competitor for cycling. (Cp. DerStandard, 2009)

The case of Munich shows similarities to Vienna. Here automobiles represented and still represent an important factor in the cities traffic system, which becomes apparent in the ratio of individual motorized transportation in modal share. In Munich this factor engaged 33% in the year 2011 (raumkom 2011, 9). Maybe last but not least because of historically direct and indirect influence of BMW. The differences regarding management of cycling issues can be seen in political and non political systematic initiatives and activities for enhancement of cycling since the years of 1970, where appropriate departments of administration, NGOs and other parties started to develop and to discuss cycling and it's related issues seriously. (Cp. Landeshauptstadt München 2010, 13) Thus developments for a cycling friendly city and society started earlier than in Vienna, which ended up in a higher proportion of bicycle traffic. The outcome is that there is bicycle culture in Munich which is developing continuously over the last recent years, as Von Sassen (2013, 3) explains. For him especially the year 2007, where the Velo-City conference took place in Munich as well as the year 2010, where the promotion of the "Radlhauptstadt München" campaign was launched. For Von Sassen these two events are representing milestones for development of a bicycle culture in the city of Munich.

Looking at Copenhagen historical developments on cycling it is observable that these had been quite different. Since invention of the bicycle as a practicable vehicle not just

for fitness and recreation but for daily commuting and transportation in the late years of 1800 it had been adopted and used by Copenhagen's general public quickly. Especially in the first half of the 1900s cities all over Denmark started to become cycling cities which can be argued with the growing importance of free movement out of the crowded and cramped inner city areas to green suburbs where air was clean at that times. The bicycle started to become affordable for everybody and for Danes it "has been inextricably linked with freedom ever since" (cp. Ruby, n.y.). Then the upswing of automobile industry in the 1960s and accompanying concepts of car friendly cities also tackled Denmark and Copenhagen. The bicycle had been replaced by cars at the streets, at least to some extent. The result had been a rise of air pollution and a decrease in quality of life. But oil crises of the 1970s and accompanying environment movements helped to reconsider danish bicycle culture, also at part of political stakeholders. "Gradually it became clear to most people that the solution to the problems had to be city planning that gave space to cars, bicycles, pedestrians and public transport. Out of this realisation grew the Danish model with its extended network of cycle lanes along the roads, which continues to be further developed." (Cp. Ruby, n.y.) Kåstrup (2013, 10) sees that cycling is not seen as a statement for Copenhageners but it "is so widespread that it is very integrated in the mainstream culture". For her, cycling is mainstream in Copenhagen and the next step might be development and further outcome of bicycle subcultures in the city, including an upswing for e-bikes.

#### 3.1.4 REQUIREMENTS AND TOOLS

For developing and enhancing a bicycle culture in an urban environment in present times different requirements can be observed. The first and most significant factor is the existence or development of a cycling friendly environment and traffic system. This does not just mean existence of physical provision and infrastructure, but also cycling friendly attitude in society, in general public as well as in politics. Additional this could mean lived tolerance and acceptance in traffic by every street participant.

How can these requirements be provided and fulfilled by cities authorities and societies? The following part will discuss measures for political stakeholders on the one hand as well as possibilities to advocate bicycle culture on an individual level on the other hand.

The city of Vienna as well as Munich and Copenhagen saw the necessity of promotion and public relations. The launch of campaigns and accompanying measures is an essential tool for public stakeholders which aim to draw more public attention on cycling and its related issues. Beside other campaigns, an important official step for a city is to host one of the already discussed Velo-city conferences, as this event can draw great attention on cycling issues and set a clear political statement for the enhanced use of bicycles, like the case of Munich showed (cp. Von Sassen 2013, 3).

In active planning issues, the integration of cyclists in urban traffic systems and the adaption of highway codes and laws for getting a more cycling friendly legal framework seems to be the most essential factor. For many cities, as well as in the three focused cities, one approach could be the general transition to a flexible use of bike lanes and bike paths, where an obligation of using a bike lane is existing by law. Although Copenhagen seems to come with great bicycle culture already, this measure seems to be the next step in further development of cycling culture in urban areas in general as well as in this city. Several other measures with minimum amount of financial costs and effort, most of them already practiced in Copenhagen, can lead to a growing cycling culture. Examples are facilities which simplify the use of bicycles in every-day life, like inclined rubbish bins along cycle lanes which simplify to dump something. Another example are installed footrests on intersections, so that riders don't have to get off their bikes, when waiting for the green light.

A second factor in this context is the interested public, which is able to develop cycling culture by activism and advocacy by certain measures, detached from policies and measures of authorities. Here, the most common and successful tool on regional, national and international levels can be seen in more or less organized bike rides through the cities which can be seen as potential measures of communities. As the most famous example the Critical Mass rides have to be mentioned, which started 1992 in San Francisco "as a monthly rush hour bike ride through the city to increase the visibility of bicycling." (Cp. Blickstein & Hanson 2001, 351).

By now, the event spread out over more of three hundred cities all over the world, as there are also CM rides in the Austrian cities of Salzburg, Innsbruck, Linz, Graz and Vienna. The common aims of Critical Mass rides are reclaiming street spaces for cyclists in a friendly but assertive way as well as drawing attention on the bicycle as elementary and sustainable mode of transportation which demands acknowledgement in common transport policy. (Cp. criticalmass.at, 2013)

Initiatives like these are able to serve as important tools for individuals, NGOs and other advocates for cycling, with the common aim to indicate cycling as an alternative and sustainable mode of transportation.

### 3.1.5 SOCIAL MEANING OF BICYCLE CULTURE

Despite different developments in the focused cities during the centuries, there is one joint tendency observable in the present. It is the tendency of growing images regarding cycling in urban areas. After getting away from seeing the bicycle as transportation for the poor cycling is on its way to become chic. This means more and more citizens see the bicycle as political statement on the one hand and as an item of fashion and lifestyle on the other hand. Ideological and lifestyle reasons can lead to the effect of growing willingness to change old habits of transportation by switching from other modes of transportation to cycling. In both cases the focus also lays on indirect indication of growing importance of alternative modes of transportation.

The tendency of cycling as a lifestyle also includes different subcultures and artistic communities. This phenomenon is becoming apparent in many different ways, for example the so called 'CycleChic', or other blogs on the internet. When started in the year 2007, Cycle Chic was launched as a blog on the internet, where a journalist and photographer "decided to put a growing number of (this) photos about Copenhagen's bicycle culture (...)" (copenhagencyclechic, 2007). The very special of this idea was and still is to visualize the phenomenon of Copenhagen's bicycle culture. The focus is on fashionable citizens in combination with their bikes in everyday-life. Thus the photos are some kind of social documentaries, showing the combination of a historical and important mode of transportation with the modern lifestyle of Copenhageners. "Cycle Chic aims to take back the bike culture by showing how the bicycle once again can be an integral, respectable and feasible transport form, free of sports clothes and gear, and how it can play a vital role in increasing the life quality in cities." (copenhagencycleshic, 2007) Now, "the blog launched a global movement, a fashion trend and the imminent return of the bicycle as transport to the urban landscape" and "the readership includes people interested in fashion as well as bicycles and bicycle culture" (copenhagencycleshic, 2007). The global Cycle Chic movement becomes apparent in a number of cities and is also documented in blogs related to the 'Copenhagencyclechic' – blog. Bicycle street life all over the world gets visualized by the same kind of photos which provide social docu-



mentation of cycling culture. So “the number of blogs and websites inspired by Cycle Chic has grown explosively. Most adhere to the Cycle Chic concept, others less so” (copenhagencyclechic, 2007).

For visualization the photo below shows the very first picture of Cycle Chic which started the whole Cycle Chic movement. It has the name 'The Photo That Launched A Million Bicycles' and there can be seen artistic similarities with all other taken photos in the blogs of Cycle Chic. (Cp. copenhagencyclechic, 2007)



*Figure 5: 'The photo that launched a million bicycles'*

(Source:

<http://www.flickr.com/photos/16nine/297307637/>)

An additional example is the further outcome of subcultures, especially the culture of riding 'Fixies' and old racing bikes, which can be seen as the most dominant group in representing cycling as political statement and/or fashion item.

It can be seen that these two aspects – cycling as political statement as well as statement for lifestyle – are having great potential to generate further enhancement of cycling movements in cities all over the world. Further, they are able to tackle political interests and influence developments in cycling policies, legal frameworks and social awarenesses in a positive way.

### 3.1.6 AIM OF DEVELOPING A CYCLING CULTURE

There is one question remaining at this point which is the question after the reason of developing cycling cultures in urban areas. Why is it desirable to develop and enhance a culture of cycling in an urban environment? Here all positive effects of the enhanced use of bicycles as mode of transportation will become considerable. As a growing culture of cycling and more cycle use will reduce the proportion of individual motorized transportation in cities, several positive effects on sustainable city development and better quality of life can be observed.

- Less congestion and thus shorter traveling times.
- Bringing back quality of space which means more social life and interaction in urban public space and absolute mobility for everybody, which can be provided by combination of public transport, cycling and walking in a suitable way.
- Healthier citizens through less pollution and better quality of air as well as regular physical exercise.
- Economic benefits in several fields (especially infrastructure and health)

### 3.2 WHO IS PLANNING FOR WHOM?

When looking on cycling policies all over European cities and in cities all over the world it's interesting to see that there are connections of how planning for cycling takes place and how planning for cycling is seated in cities' administrations and governments. The question is which approaches the cities do have in cycling issues. Do governments see cycling as exercise for recreational reasons in spare time? Do they see cycling under aspect of environmental protection or do they see cycling as mode of transportation for everyone and everyday? Fact is, that one-sided answers of these questions make a difference of how planning takes place and is apparent in cities administrations.

Following this, planning institutions and their instruments and strategies have to be analyzed and questioned. Of course it is clear that planners in governmental planning positions always have to be experts in the field they are working. It's obsolete to mention that these planners are engineers and more than qualified for technical planning issues. Anyway Jones (2001, 11) explains the current difficulty in planning for cycling "faced by many planning authorities in finding suitable trained staff to deliver their transport plans". Further he emphasizes: "Its clear that cycling (and walking) have been neglected from the training of the majority of transport planners and engineers, leading to severe problems when schemes are implemented", which he sees connected to unserious status of design guidance on cycling yet.

So, one of the most relevant issues when planning for cycling in practice is that planners do cycle themselves in the city they are planning for. A planner for cycling issues who does not cycle himself/herself will not be able to know about special requirements cyclists have. Beside general standards regarding technical issues which are well known and considered in plannings, for example the minimum width, a bike lane should have, it's also important to know and to consider local differences and specifics as well as components which make riding in an urban environment easier, faster, safer and more attractive. This is also stated by the Cycling Embassy of Denmark (2012, 61): "It is crucial for a planner to be well acquainted with the project area. This is done best by initial inspection by bike".

As planning for cycling not just tackles engineering but also social sciences and spatial planning the next issue to consider is the question after the riders. It's the question after (potential) target groups, for whom planning takes place. Cyclists are consumers of provided infrastructure and facilities. If it is the goal to enhance cycling as mode of transportation everybody has to be invited to take part and planning approaches should be as inclusive as it can be. Here, the issue of participation in planning processes is crucial and will be discussed more detailed later in this chapter. Ridership of an urban environment can consist of daily commuters – managers, students, families, bike couriers – as well as children or old people, people on shopping trips or on recreation, which all do have different requirements on bicycle infrastructure and accompanying issues.

There will always be more experienced and faster cyclists as well as non-experienced, slower cyclists and cyclists who need more space than others. Requirements and purposes of travel by bike are different and the challenge is to consider all of them as much as possible. As Jones (2001, 8) emphasizes: "Perhaps the most basic principle, often

forgotten, is that the bicycle is a vehicle (...)” and is not supposed to mix with pedestrians because of the potential different high speeds up to 20km/h. Further, regarding different needs and types of journeys, he notices that “an off-road path may be the most appropriate way to take children around a roundabout, but experienced commuter cyclists will prefer to take the much quicker route via the road”.

### 3.3 SOCIAL IMPACT – SOCIETY AND COMMUNITY

As cycling shows effects on different fields, it can be observed that it also has a certain social impact. The way of how mobility in urban areas and in general takes place describes how social communities interact. The European Commission (1999, 15) sees social advances of cycling in “democratization of mobility, greater autonomy and accessibility of all facilities to both young and elderly people”. Further cycling and other active modes of transport enhance communication and interaction on the streets, which can lead to a more social way of life and an enhanced collective cooperation, especially in urban areas. Conducive seems the fact of cycling as an open and active mode of transport, where commuters are not enclosed into a shielded vehicle where the human senses are hampered to some extent. Noises, smells, the visual field and the enhanced opportunity of social interaction while commuting can be seen as positive effects and benefits.

When planning for cycling, existing habits and grown attitudes and assumed traditions of mobility have to be considered. In many European cities the automobile is still representing the main mode of transportation, which often is postulated as historically deep seated. The way people live, move and interact is adapted to a car using society and dominated by the automobile in many cities. In cities and societies where planning is dominated by individual motorized transport and is seen through car users eyes, it's hard to develop alternative cultures of mobility, like cycling. But there are different approaches in planning and different attitudes throughout European countries and societies as the culture of mobility differs. The challenge is to change cultures of dominating motorized transportation to sustainable, ecological friendly and transportation on a more human scale. It is clear that this cannot be done over a short period of time, as changing societies cultures of mobility is a slow process. The most important factors are tolerance and acceptance, as well as open minded attitudes to new implemented approaches and ideas on part of officials as well as on part of society. McClintock (2002,

13) generalizes that “variations in cycle use between countries and within countries are particularly significant because they influence not only the social acceptability of cycling but also official willingness to provide for cyclists and give serious recognition to its importance, especially for shorter trips”.

### 3.4 GOVERNMENT, POLITICS, ADMINISTRATION – POLICIES AND LEGISLATION

For changing grown habits and attitudes regarding transportation the main precondition which has to be given might be a political statement and a sign given by the public. Often political circumstances show disagreements between political groups of interest. Politicians and administrations represent decision making institutions but are often driven by differentiated factors. Economic interests and lobbies, especially automobile industries, on the one hand and elections on the other hand can be barriers for political decisions. Statements will always be made with caution as long electors are not convinced of certain ideas and certain powerful industries, like the automobile industry, expect economic disadvantages. If policy makers are willing to change transportation systems it is important that they are committed to new and innovative approaches and not to fear upcoming elections, where community members can decide last (cp. Hager 2013, transliteration 18, 72-75).

The efficiency and productiveness of working for cycling issues in public institutions also is depending on how this is organized and managed. The question of how cycling is seated in the cities' governments and the official willingness is crucial as well as the question after efficient, central and holistic work of administrations or planning in a roundabout way. “These official attitudes also effect the way in which infrastructure for cyclists is designed, for example whether or not the bicycle is regarded effectively as a pedestrian with wheels or as a vehicle” (cp. McClintock 2002, 13).

This becomes apparent in policies and legislation. Highway codes, guidelines and strategies visualize and emphasize official attitudes regarding planning for cycling. When designing policies and laws in a cycling-friendly way, certain components have to be recognized. It's the question after fair and adequate distribution of space and road surface on the one hand and the consideration of designing for every street participant on the other hand. This means designing without any disregard and disadvantage of certain participating groups. Up to now – as planning manners seem to change in a slow way – beside others, the problem also lays in “the status of design guidance on cy-

cling: the fact that most guidance is advisory and is provided through a number of separate leaflets and publications may have allowed cycling to be treated as an optional add-on, rather than fundamental to good highway design” (cp. Jones 2001, 11). Officials will have to enhance cycling policies in a serious way to postulate official statements for cycling as a growing mode of transportation.

### 3.4.1 THE EUROPEAN PART – EU LEGISLATION, POLICIES

When looking at policies and legislation in the three focused cities, one additional question will remain. It is the question after the European Union and its policies, which can also effect national decisions. To what extent can the European Union influence national and regional planning in cycling issues? And to what extent is this happening in reality? According to Hager (2013, transliteration 5, 148-153) the influence of the European Union is very little regarding to traffic planning issues on the level of cities or municipalities. He sees potential in initiatives like the current European Citizens' Initiative for a general 30km/h speed limit in urban areas. A second issue could be general emission standards, which is also mentioned by Kåstrup (2013, 3), as a way and measure to effect and guide regional planning policies. These two measures represent potential examples of more or less direct influence in traffic planning issues, launched by the European Union and hence is valid for every nation and city. In practice, the influence can not be seen clearly.

Another factor are indirect measures, which can be brought in by the European Union. This is getting apparent in initiatives and general strategies by the European Commission, where European member states and cities are invited to take part. Examples are the European Green Capital Award and the already mentioned concept of Shared Space, which is also an EU-initiative. Most initiatives tackle environmental issues or issues of sustainable city development and mobility.

Additional there are several institutions working on cycling issues on the EU level and all over Europe. On a political level of the EU, especially the European Greens work on cycling policy and the enhancement of alternative modes of transportation.

The European Cyclists' Federation (ECF) is an institution that advocates cycling issues on a European but also on a global level. The funding for projects and initiatives consists mostly from the European Union. Though the ECF is apart from the EU's administration, collaborations are close and proposals made by the ECF can be discussed and

adopted by the EU committee. One current vision of the ECF is to double the share of cyclists in the EU by the year 2020. The proposal is the inclusion of “a doubling cycling target in the 7<sup>th</sup> Environment Action Programme [2013-2020]”, which is already adopted in an EU action plan and could also be adopted as full EU policy by the end of this year. (Cp. ECF, 2013a)

As one big initiative on European but also on international level, the Velo-city conferences will be mentioned in the following, as they represent a powerful and conductive European platform.

The Velo-city series of conferences might be the biggest project of the ECF and “is widely considered as the premier international planning conferences on cycling” (...) and “are designed to encourage cycling as part of daily transport and recreation”. The idea of the Velo-city conferences was born in 1980, the City of Bremen was the first city that hosted the conference. Conferences take place all over Europe with a European focus, but there is also set an international focus with the Velo-city Global. “The program and structure of a Velo-city Global conference is developed under a global aspect. The target is to have contributions and participants come from six continents”

According to the ECF website the “Objectives of the Velo-city series are:

- Spread high quality knowledge, good new information about cycling, and transport planning at the international level.
- Cities with good cycling policies showcase the benefits they provide to their citizens, businesses and others through the conference generated publicity.
- Encourage the recognition of cycling as an efficient, healthy, environmentally-friendly mode of transport, and to promote its greater use.
- Integration of cycle planning into transport, land-use planning and other relevant policy sectors where cycling plays an important role.
- Seek involvement from all relevant stakeholders.”

(Cp. European Cyclists' Federation (ECF), 2013b)

In June 2013, the Velo-city conference will be hosted by the city of Vienna, which can be seen as big potential for further enhancement of cycling in the city.

Concluding it can be said that the influence of the European Union according to cycling policies on a regional level is quite low but can get apparent in general guidelines regarding to environmental issues mostly. As already indicated there are also initiatives for smart city development and urban scaled issues, but it is still in question if these measures are able to play a relevant role in changing traffic systems and travel behaviors of citizens.

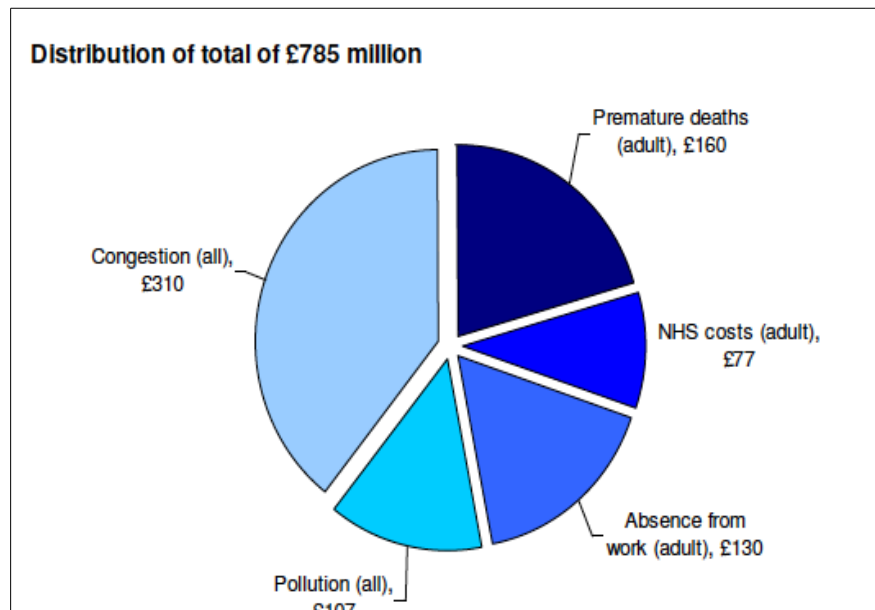
### 3.5 ECONOMIC SIGNIFICANCE

Over all benefits cycling shows, the significance of the economic value for society and fields of economy has to be mentioned.

Within this field, economic benefits regarding general issues of costs in construction and maintenance of cycling facilities, transport efficiency, public health and the health care systems as well as employment and commerce can be seen and will be presented in the following.

The SQR (2007) shows in its study amongst others the values and cost benefits of enhanced cycling in urban and rural areas in the United Kingdom. Under different scenarios (30%, 40% and 50% increase in cycling) the saved and gained amount of money in different fields is illustrated. As the study is focussed on the United Kingdom, all values are stated in British pounds.





*Figure 6: Result of a 30% increase in cycling – England (Source: SQR 2007, 55)*

The figure above shows the “Distribution of cumulative savings as a result of a 30% increase in cycling by 2015 (£ millions)” Financial savings are visualized in the fields of congestion, pollution, and health related field, like absence from work, national health service costs and premature deaths. (Cp. SQR 2007, 55).

### 3.5.1 CONSTRUCTION COSTS

As one clear economic issue, construction costs should be mentioned.

Here, Trunk (2010, 19) states and visualizes a comparison between infrastructural construction costs of driving surfaces for individual motorized transportation and bicycle traffic. In his explanation the amount of invested money for infrastructure of general road traffic is much higher, than for bicycle traffic. In Vienna, it represents about one third of the invested money for general road traffic, though only infrastructural measures for road surfaces are included and other measures, like the installation and maintenance of signage or parking sights are excluded.

It can be reasoned, that the enhancement of bicycle traffic and a reduction of motorized traffic can cause a general cost reduction of construction.

### 3.5.2 TRANSPORT EFFICIENCY

Another issue in correlation with economic outcomes, transport efficiency of bicycle traffic has to be mentioned. The most important factor when commuting in an urban environment is the factor time and over all, transport efficiency means getting from point A to B in a minimum amount of time and in a direct way, ideally by minimum amount of costs.

The Interface for Cycling Expertise (2000, 20) notes: “However, more and more cities are experiencing the paradox that with the advent of ever faster means of transport, the average speed of urban transport is decreasing and travelling time is increasing.” Further the reasons for this phenomenon are explained by arguing: “This is the result of congestion due to the lack of space. The lack of space is mainly the consequence of the upsurge of the car, which is a means of transport that uses space very inefficiently.” The solution “to the urban logjam” is “investing in transport that requires less space, such as cycling, walking and public transport”. It means that cycling, beside other modes of transportation can represent the fastest and most efficient way to travel in urban areas provided that certain frame conditions are given.

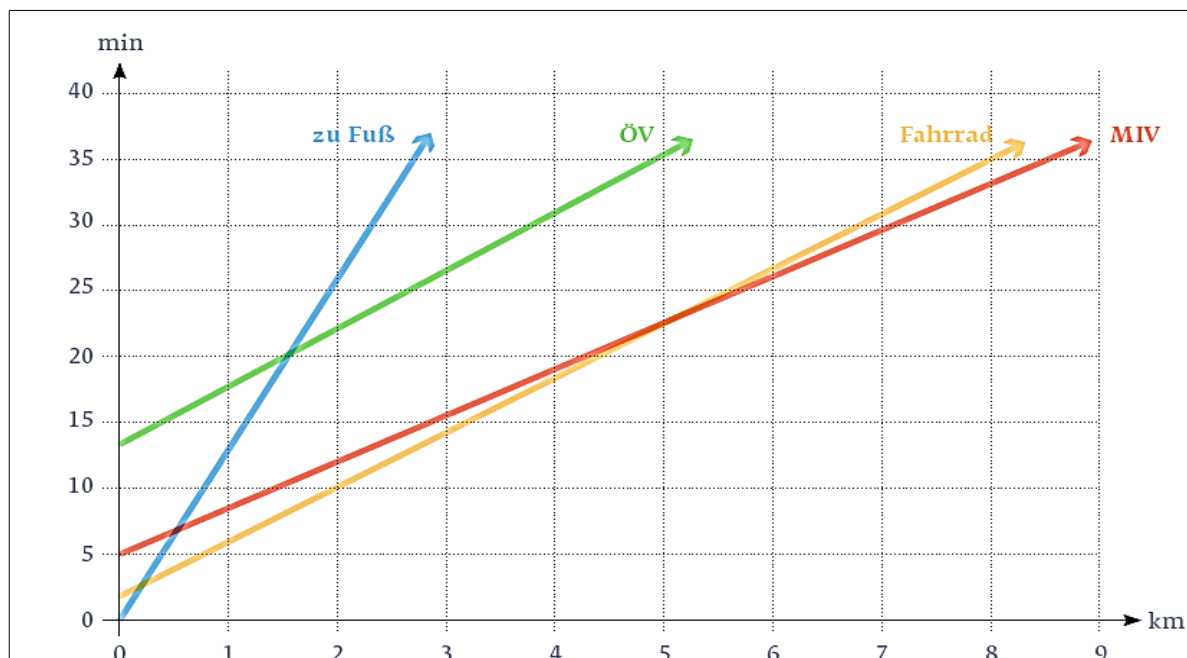


Figure 7: Speed of cycling in urban environments in comparison to other modes of transportation (Source: Löschenbrand 2012, 45)

The figure above visualizes, that the bicycle represents the fastest mode of transportation in urban areas within a distance of 5km.

### 3.5.3 CYCLIST'S HEALTH AND FITNESS

The following part will deal with health issues on medical focus more detailed, as they are in correlation with enhanced cycle use and other active modes of transportation, before the economic value in the field of health care services will be analyzed.

Obviously, there can be seen benefits on health by higher traffic volumes in active modes of transportation like walking and cycling. This is underlined by Fraser & Lock (2010, 738) who postulate that “links between physical activity and its effect on human health outcomes are well known and documented [and] clear causative associations exist between increased physical activity and reduced morbidity and mortality from cardiovascular disease, hypertension, obesity, diabetes, respiratory disease, certain cancers, musculoskeletal and mental health problems”.

The SQR (2007, 12) summarizes that “physical activity reduces the risk of developing major chronic diseases (e.g. coronary heart disease, stroke and type 2 diabetes) by up to 50%, and the risk of premature death by about 20-30%”.

Further, Andersen & Cooper (2011, 9) recognize commuter cycling and active commuting as an “important alternative in the choice of transport”. Presenting several studies on health and fitness in combination with active commuting like cycling and walking the conclusion of Andersen & Cooper (2011, 17) is, that “all prospective studies show consistent findings with lower mortality in commuter cyclists compared to passive travelers after adjustment for other risk factors and other leisure physical activity.” The experts ongoing see positive effects of daily cycling, especially on children. This “is associated with a better fitness level and better cardiovascular risk factor profile”.

Whereas physical activity by regular commuter cycling is seen as clear and striking reason for people's health, the factors of reduced air pollution and thus better quality of air have to be mentioned. Additionally the reduction of noise, which is also an outcome of an increasing cycling -and decreasing automobile-ratio, has to be discussed. Here, more detailed by Trunk (2010, 30ff.), who explains the issues of certain noise levels and their effects on human health, as well as European values for marginal costs of noise.

### 3.5.3.1 ECONOMIC VALUES OF HEALTH ISSUES

When cycling or other active modes of transportation are influencing health in a positive way by regular physical activity, it's standing to reason that costs for health system in countries with more active inhabitants are lower than in others, cause people are fitter and healthier on average.

Despite to the fact that the positive effects of enhanced cycling and walking policies are well known by many states, politicians and physicians bewail health situations of citizens and high costs of health systems. If more people could be convinced to change to active modes of transportation, like cycling, general public state of health would increase and also have positive effect on health care systems as well as peoples quality of life.

One question is, how to measure positive (economic) effects so that positive outcomes of enhanced cycle use can be proved and calculated.

Therefore HEAT was established, which is a tool for economic evaluation of transport policy and infrastructure designed for walking and cycling in general and can be applied to several fields, especially to the health sector. More detailed, Eder (2011, 22) explains that "The Health Economic Assessment Tool (HEAT) for cycling was developed to assist anyone who wishes to conduct an economic appraisal of the health effects related to increased cycling. It is designed to complement existing tools for economic appraisals of transport interventions which have traditionally tended to focus on other issues such as emissions or congestion. (...) The tool helps answering the following question: If x number of people cycle y distance on most days, what is the value of the health benefits that occur as a result of the reduction in mortality due to their increased physical activity?". The tool is able to calculate general economic benefits per mileage through a mathematical formula. Trunk (2010, 27) presents data for Vienna, which was adapted by the Lebensministerium from a study of Copenhagen. After consideration of all relevant parameters, the outcome of the calculation for Vienna was a reduction of costs for around € 0,85 per cycled kilometer.

### 3.5.4 ECONOMIC VALUES IN THE EMPLOYMENT SECTOR

Correlating to the above stated economic values in field of health, the economic benefit in the employment sector will be stated, as the enhancement of bicycle use is able to gain savings of costs for employers. This can be reasoned by an up to 50% less times absent caused by illness of employees, because their general state of health show that they are fitter and healthier. (Cp. Deutsches Institut für Urbanistik 2011, 3)

Another factor of economic benefits for employers can be mentioned by the opportunity to change transportation modes for businesses from car pool to in-house bicycles and improved conditions for employees who cycle to work (parking facilities, showers, etc.).

One example in this field is the business company UPS, which added five bicycles to it's car pool in 2010. The reasons are simple. As workers do not have to spend time and resources on searching parking space and are more flexible when using a bike on the one hand, it's the reduction of heavy traffic volume in inner urban areas which means a reduction of air pollution and noise on the other hand. (Cp. presseanzeiger.de, 2010).

This shows, that beside the already well known and well approved bike couriers in big cities, also parcel delivery services in the private sector also start to use cargo bikes and see economic advantages.

Another economic value of cycling in the employment sector can be seen by the fact that "a high level of bicycle ownership and bicycle use gives rise to a substantial business sector engaged in the production, sale and repair of bicycles" (cp. Interface for Cycling Expertise 2000, 40). So for economically well-developed countries and especially in urban areas the increased use of bicycles leads to a growing bicycle retail market.

For drawing the line to the issues of small scaled structures in urban environments, the already mentioned Victor Gruen argued for economic significance for employment and retail regarding the development of the first pedestrian and car free area in Vienna by his later on famous saying 'Cars don't buy anything' (translated by the author, note). This can be seen in connection to cycling as mode of transportation on the smallest scale. Studies underline this saying by showing that cyclists are better customers and spend average more time and money in shops than people who come by car because they are more flexible and mobile. The European commission (1999, 20) writes that "in certain categories, cyclists are even better customers. Because they buy smaller quantities each time they go, cyclists go to shops more regularly [11 times a month on average, as opposed to seven times a month for motorists] and are thus exposed more often to temptation". The fact that cyclists foster local retailers in their urban environments

because they do their shopping near their homes, can be seen positive, when thinking about the danger of extinction of local urban retailers who are in competition with big supermarkets and shopping centers in the suburbs.

Last but not least, it can be seen, that construction and maintenance of bicycle infrastructure can have a positive effect on employment rates in this sector, because of the smaller scaled workings needed for bicycle infrastructure than in common road build-ings. (Cp. Deutsches Institut für Urbanistik 2011, 4).

### 3.6 PHYSICAL PROVISION – BUILT INFRASTRUCTURE AND FACILITIES

One of the main negative assumed and propagated aspects of cycling and argument for people not to cycle in urban areas is lack of built infrastructure for bicycles. Primarily this means lack of well developed road systems of bike paths and bike lanes. 'Assumed' because of the question if this fact really has to be seen as negative aspect. This may depend on the view of the beholder, when arguing that under certain conditions bike paths and lanes will not be necessary for safe cycling, also in consideration of different types of cyclists and their requirements. Regarding to cyclists safety and security the existence of bike lanes is required by a community's majority.

Built infrastructure also means places for storage and parking facilities. To be able to store the bicycle in a dry and safe place when not needed is the most common asking and argument against using it for daily ways, if this opportunity is not given.

Inadequacy of road has to be mentioned as a third factor in this section. This generally means that road surfaces need to be in certain state of shape and condition to be suitable for cycling and is regarding to winter services (like snow clearing), road marking, street cleaning and preservation of physical structure (e.g. potholes).

Often it seems that the common value of how bike-friendly a city is, depends on the value of provided kilometers of bike paths. It is obvious that many cyclists do need other kinds of physical provision than individual motorized modes of transportation do. The common physical component is space, while one automobile does need the same amount of space than at least eight bicycles do need.

There are different approaches for a city to provide space and facilities for different participating groups. As already mentioned before, the challenge is to provide physical provision and facilities for every kind of cyclist. Bike paths and lanes can be located at the

road or on sidewalks, with cars or separated, or even mixed with pedestrians and further they have to fulfill certain criteria regarding radii and width. Practice shows very often that some physical provisions work better than others which is depending on the grade of inclusion of bicycle infrastructure and useability.

### 3.6.1 PRINCIPLES FOR CYCLE ROUTES

For a basis, Jones (2010, 8) asks for conformation of some basic quality criteria which make cycle routes popular and also effective for an increasing number of cyclists. He defines “five core principles” a cycle route should consider, which are connected to each other. The first principle is coherence, which means “a path should form part of a wider network and be of consistent design standards throughout its length”. The second principle of directness means no detours for cyclists when following a route. Attractiveness, as the third principle asks for “well lit and signed and with aesthetically pleasing surroundings” routes for cyclists. The aspect of safety is marked by infrastructure which is “designed to minimize danger” which can be seen from different approaches. Last but not least comfort is mentioned. Here “smooth, well maintained surfacing and gentle gradients with features that avoid complicated manoeuvres and sudden interruptions” are claimed.

### 3.6.2 INTEGRATIVE OR SEPARATIVE?

One of the main questions when planning for cycling issues in cities, might me the question if cycling traffic can and should be mixed with other forms of locomotion. The necessity of bike lanes to be separated from cars as well as pedestrians is answered by appearance of different needs and groups of cyclists, as mentioned. But as written before, the main principle is to consider the bicycle as a vehicle. As a cyclist, whether in slow or high speed, also has different needs in physical provision than a pedestrian, experts demand separation of cyclists (bike lanes) and pedestrians (side walks), anyway practice shows the opposite very often in many cities, for example in Vienna. As mixed walk -and cycle routes (german: Geh- und Radweg) are cheap in construction and do need a minimum of space they are popular in planning but do cause conflicts between participants very often.

The main issue often discussed is the question whether to mix or to separate cyclists and individual motorized transport. It's imaginable that these two certain modes of transportation also do have points of conflict when getting together in traffic though they do have common requirements on road surface, infrastructure and traffic management. All over European cities claims after clear and safe solutions for automobiles and cyclists sharing road surface are getting louder. As slower cyclists and beginners do need separated space in form of bike paths in the streets, fast and advanced cyclists absolutely do have the ability to integrate in motorized traffic at the road very well, as long as speed limits are adapted, which is also argued by Krag (2002, 226) who mentions that modern approaches of planners show a tendency of more integration of bicycles and automobiles. Statistically the integration of cyclists in car traffic in areas with moderate speed limits seems to be a factor which enhances more safety of cyclists, as several studies show.

This issue is connected very close to in many countries and cities existing obligation of using a bike lane, which is seated in local highway codes. Here discussions and opinions are more sophisticated and often dominated by car lobbies, when looking at different European cities. Fact is that current existing and prevailing highway codes were implemented in times where traffic planning in urban areas happened primarily for advantage of individual motorized modes of transportation. The Austrian highway code was implemented in 1960 and is valid yet, though it has been amended several times the main mission still seems to be as car-friendly as possible (cp. Straßenverkehrsordnung 1960 (StVO), BGBl. 159/1960 idF BGBl. I 39/2013).

Hager (2013, transliteration 11, 316-319) underlines this in reviewing the obligation for using a bike lane or bike path to serve the fluency of motorized traffic only. For him it is a ban on driving for cyclists on the road, so that motorized traffic is able to go ahead fluently. He further claims that the signs of the times therefore are passed off already.

Since many years there are voices asking for adoption of flexible use of bike lanes and paths, especially NGOs and syndicates advocate this. Further there are studies which confirm growing safety for cyclists in streets where obligation of using a bike lane was repealed and the use of cycling infrastructure was optional for cyclists. The German BAST (2009, 72f.) observed eighteen street sections in German cities regarding the development of accident occurrence in ten streets where obligation of using a bike lane



was repealed and another eight streets where this obligation had been retained during a certain amount of time. The results show that the frequency of accidents shows significant decrease in seven out of ten streets where the obligation had been repealed. Further the study shows a tendency of rising frequency of accidents as well as rising numbers of heavy accidents in streets with retained obligation during a certain period of time.

Especially the frequency of accidents with cyclists on intersections seems to increase, as the ADFC quotes a Scandinavian study, which shows a more than 40% increase in accidents involving cyclists after implementation of primarily physical segregated bike lanes on streets and intersections (cp. ADFC, n.y.).

This also is illustrated by a published paper, which documented the “Velo Secur” conference in Salzburg, 1990. Participating experts recognized that bike lanes and bike paths are not necessary and meaningful in each and every part of an urban area and can even cause more dangerous situations in traffic, as they avoid. (cp. ADFC Forschungsdienst Fahrrad 1992, 1)

The figure below shows the potential risks of accidents for cyclists on different kinds of infrastructure in proportion to the use of road surface.

The illustration is based on observation and comparison of traffic conflicts, the risk of cyclists on the road is in comparison with cyclists on bike lanes and bike paths.

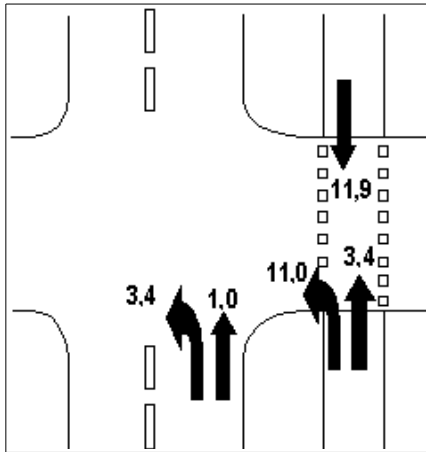


Figure 8: Ratio for the risk of cyclists in traffic (Source: ADFC Forschungsdienst Fahrrad 1992, 3)

The basis for comparison is the accident risk of cyclists driving on the road surface straight ahead (relative risk=1). The risk is relative when:

- cycling straight ahead on the road surface: 1,0
- turning left on the road surface: 3,4
- cycling straight ahead on a bike path: 3,4
- turning left from a bike path: 11,0
- cycling straight ahead on a bike lane or bike path on the left side of the street: 11,9

(Cp. ADFC Forschungsdienst Fahrrad 1992, 3)

The visualization below demonstrates advantages of riding a bicycle in the middle of the road, especially in the area of intersections. The potential of conflicts and dangerous situations for cyclists and motorists seems to be minimized, whereas riding on a bike lane or the outer right area of the road seems to allocate several dangerous risks. Here, especially the issue of visibility for cyclists and drivers of automobiles has to be mentioned.

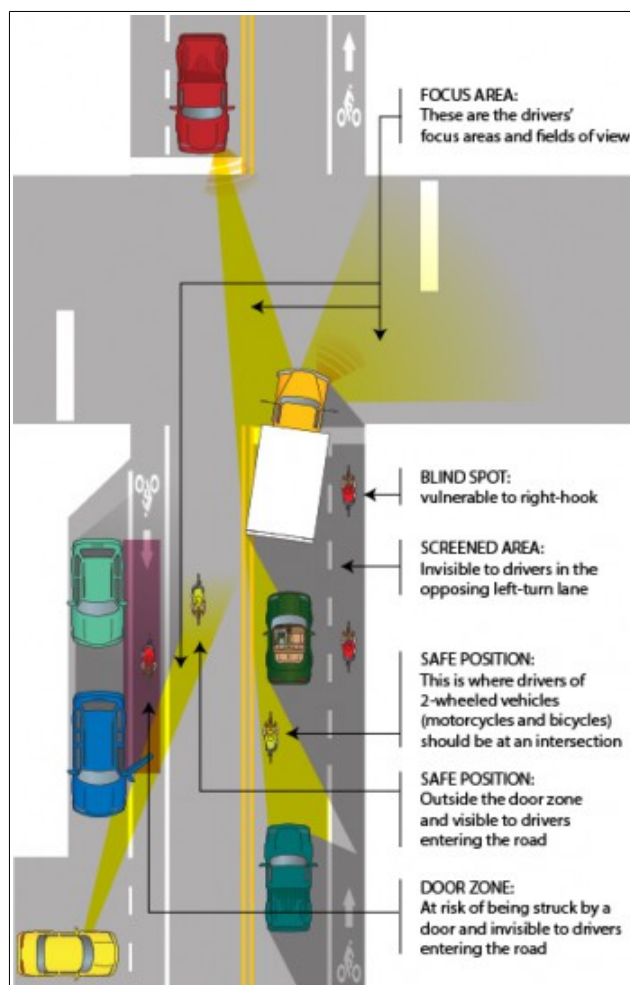


Figure 9: Overview – motorists and cyclists sharing the road (Source: <http://floridabicycle.org/drive-your-bike/>, access: 10.05.2013)

Additional it has to be mentioned that there are cities which do not have any obligation to use physical provision for bicycles which shows the discussion about good planning and good quality of cycle routes from another point of view. Physical provision for cy-

clists can be evaluated in a different kind of way if cyclists did not have to use it. The difference in this case is that planners do have to provide good Infrastructure necessarily, so that cyclists want to use it. On the other hand cyclists are not forced to use non-working, bad and dangerous infrastructure. (Cp. Hager 2013, transliteration 11, 311-316)

So, concluding this discussion and reflecting the won findings, it can be reasoned that planners and politicians are challenged to provide both – adequate physical provision for different cyclists needs on the one hand and adequate judicial frames for road sharing of cyclists and automobiles on the other hand. Of course, this can only happen in an adapted and adequate social surrounding and not just be implemented in a top down process.

### 3.6.3 STORAGE AND THEFT PREVENTION

Last but not least, when discussing built infrastructure and physical provision, the issue of safe storage has to be mentioned, as safe bike parking is one of the preconditions for private bicycle maintenance, ownership and at least bicycle use.

As statistics show a mostly growing number in bicycle thefts all over Europe, the claims after secure solutions are getting louder. In Austria over 23000 bicycles had been stolen in 2011, over 7000 of them in Vienna (cp. Bmvit 2012, 4).

Bike storage can be seen from two points of views. On the one hand the issue tackles bike parking facilities in private pace, on the other hand bike parking facilities have to be provided in public space and in adequate quantities. Additional, the third component is represented by the users, the cyclists, who tend to use the most practicable and safe facility.

Beside meeting the costs, spatial questions and the question after appropriate authorities, the question after different versions of facilities have to be discussed. There are different solutions and different kinds of facilities to provide, starting with non sheltered cycle stands where it's not possible to lock bike frames, which is essential for theft prevention, ending with automatically locked and sheltered bike boxes and of course, there is a lot of in between.

The following figures demonstrate different solutions and situations for bike parking in Vienna, but are representative for parking facilities all over European cities.



Figure 10: So called “Rim-Killer” (Source: ARGUS 2007, 22)

The figure above shows a typical solution for bike parking, but does not fulfill cyclists' requirements on safety and shelter for bikes.



Figure 11: “Wiener Bügel” (Source: <http://www.wien.gv.at/verkehr/radfahren/mobil/abstellanlagen.html>, access: 10.05.2013)

The figure above shows a typical solution for bike storage in Vienna, which allows to lock two bicycles on one rack and to lock them in a safe way, which means to lock the bike's frame, one wheel and the bicycle rack together.

One advantage of this solution can be seen in prevention of obstructive car parking in front or beside this facility (cp. ARGUS 2007, 3), a potential disadvantage definitely can be seen in a lack of shelter again.

The following figure demonstrates a solution of good practice, bikes can be locked in a safe way and are covered from weather.



*Figure 12: Sheltered and safe parking facility in front of a school, Vienna (Source: ARGUS 2007, 17)*

Additional to these three solutions for bike parking there are a lot of other forms and ideas of safe parking facilities. One of them is the so called “Bike Box”, where bicycles, tools and equipment can be locked completely as well as they are covered from weather, theft and vandalism. Normally Bike Boxes are provided in addition to conventional parking facilities.

The last solution to mention is construction of bicycle garages, where a high number of bikes can be stored in a safe way. One example is located also in Vienna, where cyclists can store their bike for one Euro/24 hours. The garage is locked and accessible through a special safety access which can be opened with a parking ticket or cash card. The garage is also covered through video control, stored bicycles can only be unlocked with the same card or ticket they got locket. (Cp. DerStadard, 2010)



Figure 13: Example of Bike Boxes and the bike garage in Vienna

(Source: <http://www.argus.or.at/info/rad-und-abstellanlagen/fahrradbox-fahrradgarage-bikebox>, access: 10.05.2013)



Figure 14: Examples of Bike Boxes and the bike garage in Vienna

(Source: [http://www.wienerlinien.at/media/img/2011/image\\_56476\\_28344.jpg](http://www.wienerlinien.at/media/img/2011/image_56476_28344.jpg), access: 10.05.2013)

One argument against this system could be that these systems can not be used for free. Because of high costs of maintenance and – in case of bike garages – high technical support, users have to buy a fee for a ticket or key.

Though there are a lot of possibilities of bike storage, the implementation often seems to be a political and public issue, as it tackles – like already discussed in the section of bike lanes and bike paths – public interests on many levels.

In case of Vienna, one big issue in planning and implementation of safe and practicable parking facilities might be construction costs, beside the principle political issue. Here financing is on part of the initializing party. Therefore private land holders have possibility to ask for public sponsorship after implementing bike parking facilities at public institutions. In Austria this is possible at a national initiative, called “Klimaaktiv”. Additional there is no sponsorship for privates from the city of Vienna specific. In most cases initializing persons have to meet the costs. If the public hand plans to implement facilities, the mayor has to discuss whether to finance new facilities out of the city's or the district's pocket. Last can be denied by the district's principal (german: BezirksvorsteherIn). (Cp. Hager 2013, transliteration 6, 161-166 and 7, 194-199)

Though there are general guidelines for construction of parking facilities for bicycles which are implemented by public administration, realization is not obligatory in general. Hager (2013, transliteration 7, 182-188) also sees a big problem in lack of parking space regulation for bicycles in Vienna's building code. Whereas there is an obligation to provide a certain amount of car parking facilities in the course of reconstruction there is no such obligation for bicycles. There is the possibility but no obligation, which is also relevant for employers.

The case of Copenhagen shows another solution, where obligations for providing parking facilities for bicycles in private space are seated in the municipal plan (Kommunenplanen). The norms for bicycle parking facilities in new constructions are 0,5 bicycle parking spaces per employee in commercial buildings and 2,5 bicycle parking spaces per 100m<sup>2</sup> in residential buildings. In public space the pilot scheme of "flex parking" tries to gain public space for bike storage, where parking spaces are used by bikes and cars at different daytimes, so that space is used in an optimal way. Though Copenhagen sees itself lacking behind in bike parking issues compared to other leading cycling cities, such as Amsterdam. Therefore the city of Copenhagen allocated the annual budget for the year 2013 with approximately € 1,3 million. (Cp. Kåstrup 2013, 4f.) Though the City of Copenhagen is a cycling friendly city in many fields, practice and local observations show a lack of facilities for bicycle storage in public space. The city council recognizes and counteracts this problem.

Munich authorities also developed a legal framework for providing adequate bicycle parking facilities.

Similar to Copenhagen, Munich launched a specific work paper where general guidelines and strategies regarding bicycle parking are stated. This paper can be counted to one of the main bicycle-planning papers of Munich.

#### 3.6.4 BIKE SHARING

If a city wants to become a 'cycling city' the question after bike sharing systems has to be discussed in planning administrations. More and more cities all over the world decide to implement public bike sharing systems.

The advantages can be seen in many ways. First to mention is that bicycles for public use can maintain a more flexible mobility in an urban area. The greatest benefit might be the more flexible use of different modes of transportation, here especially the combi-



nation of public transportation and the bicycle is relevant and has great potential. The second benefit might be that cyclists do not compulsory have to own a private bike, if certain preconditions are given. The main precondition for a working public bicycle sharing system is the factor of density, which can be seen in cities like Paris or Sevilla (cp. Hager 2013, transliteration 12, 48). Beside this the provided bikes do need to be in a certain shape and condition. Here the balance between functionality and a certain kind of indistructibility has to be found. Third, the rental system has to be as easy as possible. The fourth aspect is pricing and rental times. If public bikes are expensive to rent on the one hand and the amount of time a bike can be used is not attractive on the other hand, certain groups of society will not participate. This means rental systems have to be as flexible as possible as well.

Comparing the cities of Vienna, Copenhagen and Munich it can be mentioned, that the Viennese system seems to be the best solution, though it is not for free use. The benefit of the “City Bikes” lays in customer friendly use on each level. Registration is easy, pricing is fair and cheap, the bikes are in a good shape mostly as well as service and support by the operating company is working well. Last but not least it can be seen that density of rental stations, especially in outer districts of the city, is still high and rising continuously, which is also a goal in the coalition paper of the leading parties SPÖ and Grüne (cp. Stadt Wien 2010, 62).

Copenhagen's current existing public bike sharing system shows several disadvantages. The system dates back to 1995. The majority of the bicycles is in a bad shape and rental stations are empty very often. This may be caused by the fact that the rental is for free – which is no disadvantage in general – and bikes can be rent with a coin or chip, like a shopping trolley. This also may be the reason why it seems that the bikes are not treated well by renters and are broken very often. Rental stations are located in the inner city only, which limits use and target groups. As the Interview with Marie Kåstrup (2013, 8) shows, the city of Copenhagen is working on a new public bike sharing system. The new system will be provided primarily for “commuters who combine train and bike”. The second target group will be “tourists and Copenhageners in need of an emergency bike”. Further she explains that the new public bicycle scheme will completely replace the old, current existing one, as well as it “is planned to cover the Copenhagen capital region but is prepared to be rolled out on a national level if financing can be found”.

The city of Munich does not provide or administrate a public bike sharing system directly, though there are two main contractors which provide bike rental in a more or less public way. The first provider to mention is the German railway company (DB) which provides a system called “Call a Bike” all over Germany, where bikes can be rented after registration via mobile phone and code from several stations. Pricing is similar to the Viennese model, shape of bikes seems to be well. (Cp. [www.callabike-interaktiv.de](http://www.callabike-interaktiv.de)) The second model is called “nextbike” which is a world wide acting company, here also registration is required, pricing is similar to “Call a Bike”, the amount of provided bikes is around 300. (Cp. [www.nextbike.de](http://www.nextbike.de)) The here seen disadvantage seems to be the density of rental stations on the one hand as well the expansion of the rental area. This is mostly limited to the inner districts of the city, inside of the “Mittlerer Ring” which is comparable to the Viennese “Gürtel”. According to Von Sassen (2013, 4) there will by analysis for a nationwide public bike sharing system before the city of Munich will think about the implementation of a public system.

### 3.6.5 INTERMODALITY

When talking about infrastructure and cycling it's also necessary to mention the demand of intermodal transport. This means infrastructure that supports combination of bicycles with other modes of transportation, primarily public transport. The possibility of combining cycling and public transportation by carrying bikes on trains, metros and busses seems to be essential when talking about push and pull factors for taking a bicycle or not. This especially has to be mentioned regarding to commuting from outer urban areas and suburbs to inner urban areas of cities, where people need to combine modes of transport because of far distances between places of living and working. When intermodal transport including the use of a bicycle is not possible or at least not easy, the majority of people will chose motorized modes of transportation for their everyday ways. For all cyclists who have to put up with this lack of infrastructure for different reasons, this means a clear drawback.

On the one hand traffic systems develop by time and provided infrastructure can turn to be not efficient and smart enough any more. On the other hand city planning departments and politicians can lead a city's traffic system to changing developments, here also system and infrastructure has to change and to be adapted in most cases.

If the aim is to enhance and support developments in cycling as mode of transportation, upgrading and constructing bike paths is just one issue. For tackling a majority of commuters in an urban area the possibility to combine the use of bicycle with public transportation seems to be another important factor. Therefore transport companies and their policies need to act in partnership with cycling interests. In some European cities, as well as in Vienna, public transport companies tend to see an increasing cycle use as a factor of economic danger (cp. Hager 2013, transliteration 3, 61-62). Because of the fact that public transport companies also represent one big decider in traffic system issues, they have the power to anticipate certain developments regarding the enhancement of cycling.

To combine public transportation and cycle use the most important factor is the potential for transport companies to develop a new market as well as the potential for commuters to travel in a more efficient way, especially on longer trips throughout the city. The second factor is special infrastructure, which is needed by cyclists and has to be provided in a smart and efficient way. First, infrastructure means availability of safe bike storage for short time and long time storage. Second, carriage of bicycles on trains, busses and metros has to be possible in a non-constraining way, which also means fair pricing and no limitation at certain day times.

Further, to show the case of Copenhagen, Kåstrup (2013, 8) sees “a strong potential in combining trains with bikes and presently, Copenhageners transport their own bikes inside the regional trains to a large extent”. To go back to public bike sharing systems, she sees an enormous potential in public bikes to relive public transportation systems according to the big amount of space carriage of bicycles on busses or trains needs. “Transportation would be more efficient, if there were public bikes available at the end of the journey” (cp. *ibid.*), which can be seen as a third and additional aspect of infrastructure.

Also Munich recognized a potential in combining bicycles as well as automobiles and public transport. Therefore a resolution was launched already in 2007, where further construction and provision of Bike and Ride and Park and Ride facilities was stated.

### 3.7 SAFETY AND SECURITY

The decision to take the bicycle for commuting in a city is depending on several factors, as already discussed. The most significant reason might be the aspect of traffic safety

and the most common argument against cycling is the assumption that cycling in an urban environment is dangerous and connected with heavy accidents and injuries.

It cannot be denied that casualties of commuter cyclists in cities often are in connection with heavy and even fatal accidents. But it's necessary to analyze the reasons on the one hand and to make clear that “the advantages of cycling for public health (a healthy life through regular exercise) far outweigh its disadvantages (the risk of accidents)” (European Commission 1999, 35) on the other hand. Studies show that the main reason for accidents involving cyclists and motorized vehicles is the factor speed. As long as high speeds, this means 50km/h up to 70km/h and 80km/h, in inner urban areas are allowed and belong to normal, safety for cyclists and pedestrians will continue to serve as argument against these modes of transportation because accidents hardly can be avoided without exclusion of cyclists in certain streets and areas. One of the reasons for heavy accidents on big inner urban roads are big fluctuations in speed of different road participants. The solution might be the reduction of speed limits to 20km/h and 30km/h in urban areas in general on the one hand and hence to enhance slower modes of transportation. Additional several studies visualize correlations between the number of cyclists on the streets and statistics for cyclists' accidents. The European Cyclists' Federation (ECF) therefore published a fact sheet where studies about cyclists' safety had been analyzed and brought together. There factors like traffic volume of cyclists as well as the question of wearing helmets or not had been considered. (Cp. European Cyclists' Federation – ECF, n.y.) The output may be surprising for the reader and will be discussed in the following.

'Safety in Numbers' is a concept which already was developed in 1949. At that time the purpose of the concept was to analyze data of motor vehicle use in 62 different countries. The surprising output was that “road fatalities per vehicle were lower in countries with more driving”. Statistical output from data with regard to walking and cycling now shows that the concept of 'Safety in Numbers' easily can be adapted to these modes of transportation. The figure below visualizes the correlation between the share of cycle use and the number of fatalities with bicycles on the road. Additional the factor of helmet-wearing is included.

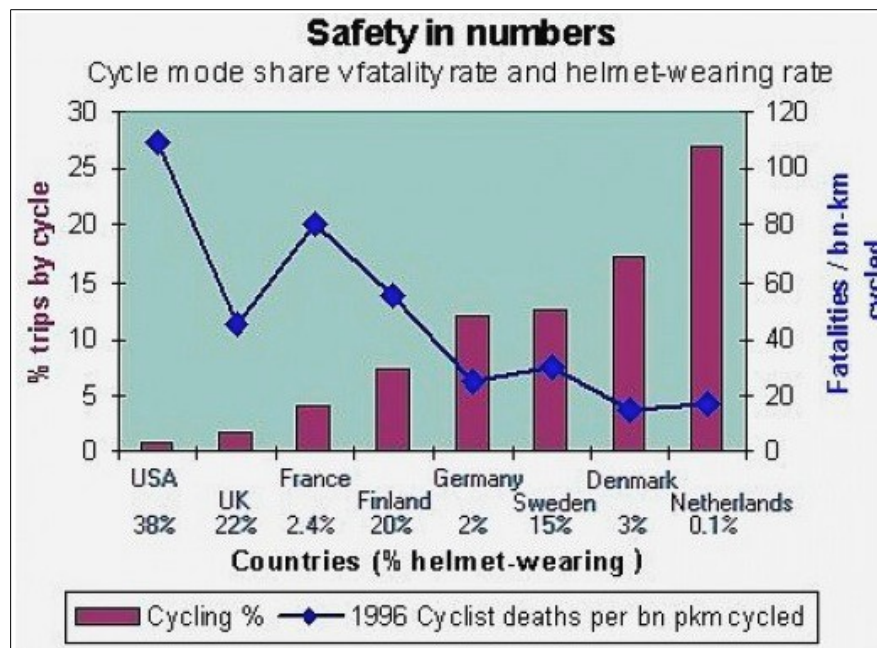


Figure 15: 'Safety in Numbers' (Source: European Cyclists' Federation (ECF) n.y., 2)

The main statement is that “countries with the lowest levels of cycle use have the poorest cyclist safety records” and the other way round. (Cp. European Cyclists' Federation (ECF), n.y., 2)

It also was found out that these phenomenon is a global one, as the study of Jacobsen in the year 2003, quoted by the ECF, shows. It became apparent across all data sets that “motorists are less likely to hit bicyclists and pedestrians when there are more people bicycling or walking”. The higher traffic volume of cyclists and pedestrians causes the adjustment of motorists' behavior in traffic situations where cyclists, pedestrians and motorists come together. So the ECF (n.y., 3) argues that “there is an urgent need for further exploration of the human factors controlling motorist behaviour”. Further the ECF sees the necessity to revise laws “to reflect the premise that the number of collisions with vulnerable road users is determined largely by motorist behaviour”. Regarding to cycle helmets an Australian study observed that the implementation of a cycle helmet law in Australia stands in close correlation with a 30% fall of cycle use in general. “Thus despite, or because of, the helmet law, the risk of injury per cyclist relative to pedestrians increased as cycling numbers fell”. (Cp. European Cyclists' Federation (ECF), n.y., 3)

Beside the hard facts and figures regarding to discussions about wearing helmets when riding a bicycle or not, it can be said, that experts' opinions seem to differ a lot in this issue. Whereas some experts advocate a cycling helmet law in general, others argue with social impact of a helmet law. The consideration tackles the fact that wearing helmets on bicycles conveys that cycling in urban areas is something dangerous and that it this mode of transportation can only be chosen by advanced and trained cyclists. If a cycle helmet law will act as a deterrent for street participants who still do not cycle yet, the chance of changing traffic behavior of broad parts of society will be more difficult than it seems to be in the present.

### 3.8 MARKETING AND PROMOTION

Imaging, advertising, participation and campaigns are measures and components which can be seen as essential for bicycle planning strategies. McClintock (2002, 36ff.) asserts that providing physical provision, like bike paths and parking facilities, is not enough to enhance cycling as an urban mode of transportation. The issue is about introducing cycling through soft measures which have to be adapted with consideration of grown behaviors and cultural attitudes of societies.

Especially the requirement of information by politics and officials and the chance of participation by society in developing processes can help to enhance alternative modes of transportation. Promotion seems to be necessary especially in cities and countries, where cycling represents a small fraction in traffic volume.

In dependence on McClintock (2002, 44) there can be seen three main categories of residents regarding to cycling habits, of course with some slight transition. First, people who cycle already – more or less regularly. The bicycle serves as preferred mode of transport for everyday-use. Second are people who maybe own a bike already, the bike serves as a vehicle for recreation and physical exercise, everyday-use is exception. To convince those to utility -and commuter cycling might have great potential and easy to reach. The third group can be described as the classical car-oriented fraction, where most travels are made by individual motorized transportation and no sympathy for other travel modes can be seen. Here convincing represents the biggest difficulty.

As it can be seen that in many cities, it is the group of migrants and children are extremely underrepresented regarding to cycling. The conclusion might be, that these two groups represent an enormous potential for cycling traffic. For the Viennese case,

Hager (2013, transliteration 15, 430-434) describes the challenge of migrants and cycling regarding to sociocultural aspects, as they often are oriented on advancement and status symbols and the bicycle is often seen as a mode of transportation for the poor. The case of (school)children in Vienna shows, that schools do have a small fraction of cyclists, which is caused by several reasons. First, schoolchildren do not have to pay in Vienna's public transport system. Second, parents still do need to allow kids to chose the bike and as long as the way to school seems to be more dangerous by bike, children will go by public transport. The third factor is group dynamics. Precondition to go by bike as a group is a 100% bicycle ownership or at least rental bikes at schools. (Cp. Hager 2013, transliteration 15, 442-445)

On the opposite, the case of Copenhagen shows that a majority of Copenhagen residents takes the bicycle at least once per week (cp. Kåstrup 2013, 4), so that concentrated promotion and marketing initiatives do not seem to be necessary in this field.

Anyway the challenge in many European cities is to change travel behavior to a more sustainable one and to tackle potential groups of society with effective measures for everyday-cycling. Therefore cities like Munich or Vienna started big marketing campaigns for broad groups of society, which are attended by a number of initiatives and activities.

The attending initiatives are in relation to promotion of cycling to work and to education, the provision of already discussed secure parking facilities, the promotion of cycle use for shopping trips, additional the promotion and provision of infrastructure for leisure cycling.

### 3.9 ENVIRONMENTAL PROTECTION AND ECOLOGICAL REASONS

As generally known cycling is the most ecological mode of transportation, except of walking. As it's clear that cycling does not produce any greenhouse gases when doing, it is also a fact that the production of a bicycle itself just causes a fraction of emission than producing an automobile. Löschenbrand (2012, 43) mentions that the used energy for production of an automobile assumes about 19% of the primarily needed amount of energy which a car needs during it's whole service life.

Another form of pollution can be seen in noise. In comparison with automobiles and the most common forms of public transport the bicycle does not cause any noise, which leads to a more quiet way people can live in their city and a higher quality of life.

Löschenbrand (2012, 42f.) points out that the highest continuous sound pressure level is caused by individual motorized modes of transportation.

As mentioned in the part of economic benefits in this chapter, the building of roads and infrastructure needed for bicycles does need less energy and resources than for automobiles and other modes of transportation - economically as well as ecologically.

### 3.9.1 GOING GREEN, SUSTAINABILITY AND E-MOBILITY

As the bicycle appears as ecological friendly and nearly CO<sub>2</sub> – neutral mode of transportation, this form of mobility is getting a special and prospective role in this issue. The factor of eco-sustainability and ecological standards is as meaningful as considerations regarding management of urban space. On the one hand this tackles the enhancement of quality of urban life as well as ecological considerations regarding to air pollution, global warming and exploitation of natural resources.

There can be experienced new thinking in societies and politics all over the world since several years. Ecological awareness and the tendency of “going green” can also be seen in European cities, for example in Copenhagen, where it is the government's goal “of having a good city life and making Copenhagen CO<sub>2</sub> neutral by 2025” (The City of Copenhagen 2011b, 5).

This tendency can be seen as trend already and is still visible on a supranational level, too. Beside cities and communities, it is also the European Union, which tries to consider ecological issues in planning and policy making in the field of urbanism and city planning. This becomes apparent through several initiatives, like the already mentioned European Green Capital Award or the annual European Mobility Week and the connected award for Sustainable Urban Mobility Plans (SUMPs), which both are rolled out by the Department for Environment of the European Commission and represent just two out of many strategies and initiatives.

The example of Austria shows, that sustainable modes of transportation are in connection with e-mobility very often. Experts are discussing about reduction of air pollution and CO<sub>2</sub> – emissions, which are mostly caused by individual motorized modes of transportation. An innovative solution seems to be near by saving the environment on the one hand and keep traffic rolling in cities as usual on the other hand. The idea is to enhance e-mobility and to provide infrastructure for it. Therefore the Austrian ministry for economy, family and youth (bmwfj, Bundesministerium für Wirtschaft, Familie und Ju-



gend) and the Ministry for Agriculture, Forestry and Water Management (Lebensministerium; Bundesministerium für Land -und Forstwirtschaft, Umwelt und Wasserwirtschaft) implemented the Austrian policy for energy (Energiesstrategie Österreich, note) in 2010, where one focus regarding traffic and transportation is set on enhancement of e-mobility in many sectors. Beside e-mobility for bicycles and scooters the main focus will be on automobiles again, which means the enhancement of e-cars. The question will be, if this is the optimum way for developing sustainable traffic systems in urban areas. In relation to management of space and the connected quality of life on the one hand and high costs of production -financially as well as related to environmental issues and resources-, maintenance and running costs of automobiles on the other hand, e-mobility as overall solution for ecological questions and sustainability will have to be queried. Further, after equipping private households, public transportation and companies with electric vehicles, the question after sustainable and smart electric resources will have to be answered.

Regarding to cycling and e-mobility in urban areas the following general problems, especially regarded to infrastructure, will have to be handled. Physical provision and bike paths will have to be adapted for much higher speeds of cyclists, as long as the general obligation for using bike paths and bike lanes keeps standing.

For private ownership of electric bicycles it has to be seen that these bicycles are expensive in maintenance, facilities for storage will have to be safe and the ability to prevent theft. Regarding to heavy weights of electric bikes, places to for storage need to be at ground level of apartment buildings, which is tough to handle in old buildings, like they are common, in a city like Vienna. (Cp. Hager, transliteration 12, 368-373)

A second factor which is discussed currently in Vienna, is the investigation of upgrading the current public bike sharing system with electric bikes as well (cp. Stadt Wien 2010, 62).

If this measure will help to reach expected effects can be mistrusted, as there are several factors to consider which can be problematic for offering electric bikes in a public and automatic rental service. The first factor is usability of public bike sharing systems, which cannot be provided with electric bikes because of higher defect frequencies and higher amount of needed equipment, like electrical power supply. The second factor is the small amount of time and distance a public bike is used in average and the question after high costs of maintenance, installation and service on part of the operator. (Cp. Hager 2013, transliteration 12, 354-360) Further, Hager (2013, transliteration 12, 360-

363) mentions that upgrading everything with electric power probably can cause narrow confines. Thus he sees no justifiable reason for enhancement of electric mobility for bicycles, but for politicians and power providing companies primarily, who are pleased about the image.

However, there is a tendency in other Austrian regions for enhancement and research of electric bicycles by the public hand. Within the project LANDRAD in Vorarlberg participating researchers were analyzing how pedelecs (electric bicycles) can take influence in travel behavior, especially within a distance from 10km. The project was initiated in cooperation by the public hand (Land Vorarlberg) in cooperation with private institutions. It ended in 2010, the aim was to boost number of commuter cyclists for another 3% on long term view. Pedelecs were sold to customers by attractive fees, in return cyclists offered statistical data for analyzes of change in bicycle use and travel behavior. (Cp. <http://landrad.at/>)

## 4 THE CITIES

As the main focus of this paper lays on cycling in urban areas and in relation to this on the three focused cities of Vienna, Copenhagen and Munich, the following part of this paper will provide further information and data about cycling related issues in these cities.

Thus this chapter will discuss and compare data related to population, data of modal share, information about current planning-involved institutions and planning policies for cycling. Though different approaches in planning policies are visible, all three cities / countries provide national cycling policies, written down in national bicycle traffic plans or strategies, published by the responsible national Ministries and authorities.

The Danish national cycle strategy with the english translated title 'More bicycles, safer roads' was published in 2007 and outlines "a number of desirable focus areas for cycling on the state roads. These included: establishing a new cycling infrastructure, focused maintenance efforts, improved road safety for cyclists and better planning". (Cp. Cycling Embassy of Denmark 2012, 61)

Germany published the 'National Bicycle Traffic Plan 2020' which targets guidance, moderation and revitalization in cycling issues on a national level, especially in relation to juristic framework and maintenance of bicycle infrastructure on state roads. Also re-

gional levels are targeted, as the federal system requires their competence in bicycle planning issues for the single regions. (Cp. Bundesministerium für Verkehr, Bau und Stadtentwicklung 2012, 7)

In Austria, the first edition of the 'Cycle Master Plan' was launched in 2006. The main aim of this document is comparable with the German Bicycle Traffic plan, as a nationwide impulse for enhancing bicycle traffic should be effected. Therefore certain measures should be implemented in cooperation of federation, federal states (Bundesländer, note) and municipalities, as well as stakeholders of the economic field, transportation companies and NGOs. Here the major focus seems to be on environmental -and health targets, which are meant to enhance quality of life in urban areas and municipalities. (Cp. Bundesministerium für Land -und Forstwirtschaft, Umwelt und Wasserwirtschaft 2006, 6)

Whereas the Danish and German national strategies and plans had been developed by the particular Ministries of Transport, the Austrian 'Cycle Master Plan' was published by the Ministry of Agriculture, Forestry, Environment and Water Management.

#### 4.1 CYCLING IN COPENHAGEN

As the city of Copenhagen can be called a cycling city and serves as example for best practice in cycling issues for many cities all over the world, it was near to chose the this city for a comparing view regarding cycling culture and bicycle planning. European cities try to 'copenhagenize' as well and it seems that Denmark and especially Copenhagen seems to have the smartest solutions for cycling issues.

##### 4.1.1 MODAL SHARE COPENHAGEN

Copenhagen, as the capital city of Denmark, counts around 560.000 inhabitants and the population of greater Copenhagen region counts around 1.3 million (cp. Statistics Denmark, 2013).

When looking at nationwide tendencies in modal share, the ratio of cycling in Denmark's modal share has fallen by 30% since 1990. The citywide level of Copenhagen shows different tendencies as "the number of kilometers cycled has risen by around 30% since 1998 and the bicycle's modal share for trips to work or educational institutions has risen

to over a third in the same period. This makes the bicycle the most popular transport form for commuting in Copenhagen.” (Cp. City of Copenhagen 2011b, 5)

According to statistics of modal share Copenhagen residents' travel behavior is characterized through a very homogenous distribution of cycling, public transportation and individual motorized transportation. Although spatial expansion of the urban Copenhagen area seems to be walkable, the walking ratio in modal share is quite underrepresented, when comparing with Vienna and Munich.

The Copenhagen Bicycle Account 2010 (cp. City of Copenhagen 2011a), shows different tendencies in Copenhagen modal share when comparing Copenhagen residents only and all residents.

The figures below visualize these tendencies by showing big differences in all modes of transportation.

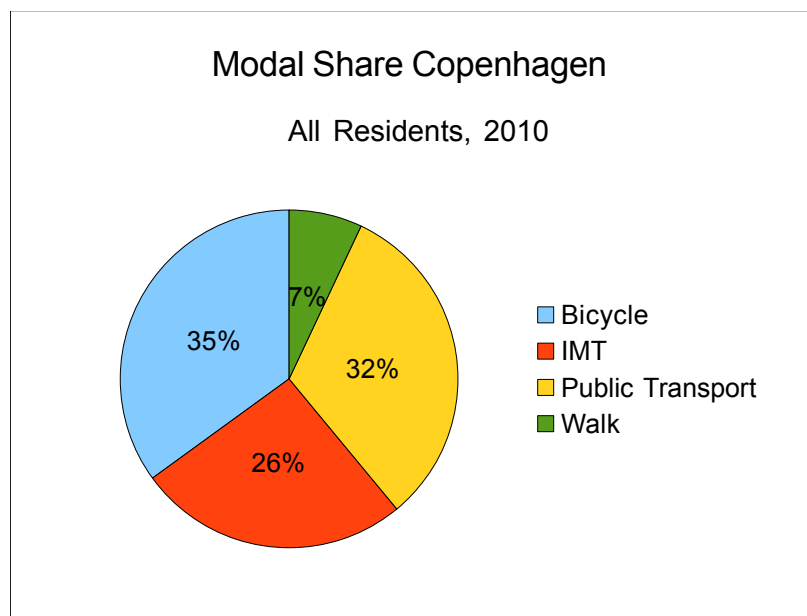
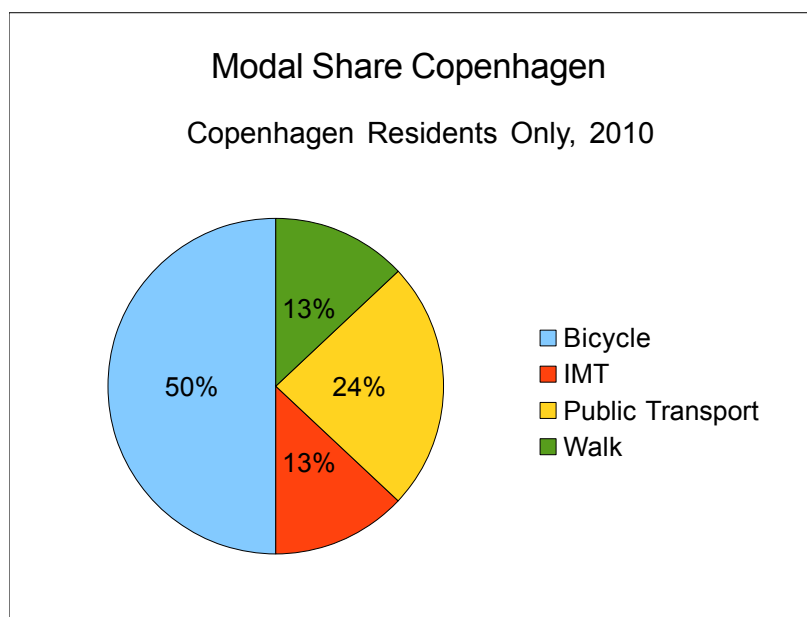


Figure 16: Modal Share Copenhagen – All Residents (Source: Own illustration. Cp. City of Copenhagen 2011a, 6)



*Figure 17: Modal Share Copenhagen – Copenhagen Residents Only (Source: Own illustration. Cp. City of Copenhagen 2011a, 6)*

When comparing the two figures above, there can be observed two impressive differences between choices of travel mode. Whereas 35% of all journeys are made by bicycle in the group of all residents, 50% of Copenhagen residents chose this travel mode for commuting. A similar tendency in a sustainable direction can be seen in the ratio for individual motorized transportation (IMT) which is 26% for all residents and 13% for Copenhagen residents only. Walking as mode of travel shows a higher ratio with view on Copenhagen residents only, here the ratio for public transportation shows a slightly lower percentage.

(Cp. City of Copenhagen 2011a, 6)

These statistics describe a clear preference of Copenhageners to take the bicycle for daily ways and they show the great potential to further enhancement of cycling for people who are commuting in from outer urban areas and suburbs. Within this group the preferences could be seen in the modes of public and individual motorized transportation.

#### 4.1.2 WHO CYCLES WHEN AND WHY?

Copenhagen cyclists are as different as their lives, characters, origins, personalities and cycling skills are. But as already written, there cannot be seen any tendencies of certain groups in society who cycle more or less than others. Amongst the “86 % of all Copenhageners [who] cycle at least once per week, cyclists are not a particular demographic group, although older citizens tend to cycle a little less, and there are slightly more women than men” (cp. Kåstrup 2013, 4). According the Bicycle Account of 2010, 55% cycle because it is faster, 33% because of a higher convenience, 32% mention health related reasons and 29% argue with saving money. Additional 21% say cycling is a good way to start the day, for 10% it is the shortest route to work after changing job or residence and another 9% mention environmental / climate concerns for cycling (cp. City of Copenhagen 2011a, 3).

Copenhageners chose the bicycle basically for commuter cycling, even in winter-months and cold weather periods the bicycle represents a significant factor in travel mode.

#### 4.1.3 COPENHAGEN STRATEGIES AND POLICIES

The city of Copenhagen pursues several goals regarding sustainable city development on different levels. The clear political decision to make Copenhagen a healthier, cleaner and environmental friendly city also tackles cycling issues. Several plans, policies and strategies have been adapted throughout the last years which all serve as tool to reach the pursued aims. What are future prospects and goals regarding cycling for Europe's Cycling City?

##### 4.1.3.1 'ECO METROPOLIS'

As the first paper to mention, 'Eco Metropolis. Our Vision for Copenhagen 2015' can be seen as superior idea and vision to make the city of Copenhagen a sustainable and a more liveable city. Here a clear statement is made for taking action (cp. City of Copenhagen 2007, 4). Launched in 2007 and based on data from 2005, the general aim is to improve urban environment on different levels. Therefore four main objectives targeting bicycle traffic had been set by politics which are planned to be achieved by 2015.

The first objective tackles this issue by expressing the aim to make Copenhagen 'The Worlds Best City for Cyclists'. The concrete goals for 2015 are:

- an increase of commuter cycling up to 50% of all residents
- the number seriously injured Copenhagen cyclists will decrease for at least 50%
- "80% of Copenhagen cyclists will feel safe and secure in traffic"

(Cp. City of Copenhagen 2007, 9)

The objective 'Climate Capital' set the general goal of a 20% reduction of the city's CO<sup>2</sup> emissions (cp. City of Copenhagen 2007, 11f.). Additional 'A Green and Blue Capital City' is targeted on access and regular use of green and blue recreational areas for citizens, whereas 'A Clean and Healthy Big City' aims for better air quality, less noise and ecological awareness on different levels. (Cp. City of Copenhagen 2007, 14ff.)

In addition to 'Eco-Metropolis' the city of Copenhagen launched 'A Metropolis for People'. Here the focus is set on enhancement urban quality of life which means a focus on public spaces and people who live in in the city. (Cp. City of Copenhagen 2008) This also tackles cycling issues, as political acceptance and a tolerant traffic system therefore are in great demand.

#### 4.1.3.2 CYCLE TRACK PRIORITY PLAN

According to the official website of Copenhagen, the 'Cycle Track Priority Plan' runs for ten years, from 2006 to 2016 and "has been drawn up for a number of new cycle tracks and cycle lanes to be created in Copenhagen over the coming years". The goal is to widen the already existing cycle network of tracks and lanes by another 70km of physical provision. (Cp. City of Copenhagen, 2012a) Kåstrup (2013, 2) explains, the aim of this policy is to prioritize "where new bicycle tracks should be built. In terms of kilometers, app. 90% of the prioritized routes have been built already, but certain crucial missing points still pose obstacles for safe, comfortable and fast connections for cyclists."

#### 4.1.3.3 BICYCLE STRATEGIES – FROM 2002 TO 2025

Due to the fact that the city of Copenhagen recognized necessity of well elaborated concepts and strategies in regard to cycling issues quite early when comparing with other european cities, the first 'Cycle Strategy' was launched in 2002 and represented the "first proper bicycle strategy" for Copenhagen. Running from 2002 to 2012, several con-

taining objectives since have been postulated in the main version of the above mentioned 'Eco-Metropolis' and still are valid. (Cp. City of Copenhagen, 2012a)

In 2011, a new bicycle strategy was launched. 'Good, Better, Best – The City of Copenhagen Bicycle Strategy 2011-2025' (cp. City of Copenhagen, 2011b) will run until 2025 and replaces the former bicycle strategy. (Cp. City of Copenhagen 2012a) “The goal of this publication is to highlight, with the help of words, numbers and photos, what is required if Copenhagen is to reach its ambitious goal of increasing the modal share for bicycles” (Cp. City of Copenhagen, 2011b, 5).

Amongst visualizing numbers, trends and statistics, goals and initiatives are set by politics and written down in the current bicycle strategy and are targeted to be fulfilled in 2025. The following part shortly describes the main goals.

(1) Further enhancement of cycling for a ratio up to 50% cyclists in modal share to 2015 and to hold this ratio until 2025, like postulated in the 'Eco-Metropolis'.

(2) Further development of the so called 'PLUSnet' which is a bicycle network which is “consisting of chosen Green Routes, Bicycle Superhighways and the most congested bicycle routes” (cp. City of Copenhagen 2011b, 11). The PLUSnet will provide cycle tracks with at least three lanes in each direction and will hold a share of 80% of all cycle routes in the city. In 2010 the ratio already held 25%. (Cp. City of Copenhagen 2011b, 11+30)

(3) As a third goal shorter traveling times for cyclists are targeted. The main outcomes should be a reduction of traveling time for cyclists up to 15% and to develop the bicycle as the fastest mode of travel in many parts of the city (cp. City of Copenhagen 2011b, 20). One measure might be implementation of ITS (Intelligent Travel System) to transform the street with help of LED lights from being static to being dynamic. Thereby traffic flows can be led in dynamic and more efficient ways by changing signage and purpose of streets, which can be used conducive for bicycle traffic. (Cp. City of Copenhagen 2011b, 15) Other measures are the filling of sing links in cycle networks, opening more and more one way streets for cyclists and the implementation of more short cuts throughout the cycle network (cp. City of Copenhagen 2011b, 23). Further the promotion of e-bikes and the further implementation of green waves for cyclists is planned (cp. City of Copenhagen 2011b, 22).

(4) For further enhancement of commuter cycling, the next goal is the improvement of comfort levels “across the board so that both the current and the potential cyclists find it easy and attractive to cycle in Copenhagen” (City of Copenhagen 2011b, 16). Here is-



sues like well maintenance of cycle tracks and lanes all year round, implementation of a new and smart bicycle sharing system as well as further provision of safe bicycle parking facilities, also for cargo bikes, are tackled (cp. City of Copenhagen 2011b, 14+18).

(5) As fifth and one of the most important goals the enhancement of cyclists' safety and security is mentioned. Here the goals are that 90% of Copenhagen cyclists feel safe when cycling in traffic by 2025 and "relative to 2005, the number of seriously injured cyclists will fall by 70%" (City of Copenhagen 2011b, 30).

To reach these goals, measures like further development of green and blue cycle connections "along the water and through green areas separated from car traffic offer an increased sense of security (...)" (City of Copenhagen 2011b, 26) will be adopted. Provision of wider and more cycle tracks offer more room and space for all different kinds of riders on the tracks and gain a greater feeling of security. In addition more visible marking and smart placement of bike lanes in traffic can help to enhance cyclists' safety in traffic. (Cp. City of Copenhagen 2011b, 27) Last but not least in relation to safety, a 'cycle track etiquette' should be established by 2025 so that "the citizens share a common understanding of what considerable behavior is" (City of Copenhagen 2011b, 26).

The last two goals are related to (6) lifestyle and image, where the main focus is on enhanced promotion of cycling and campaigns for "specific target groups who have the potential to cycle more, including newcomers, the elderly and people who use the car for short trips" (City of Copenhagen 2011b, 31). (7) Last but not least specific riders' experiences should be integrated and communicated (cp. City of Copenhagen 2011b, 31).

#### 4.1.4 PLANNING FOR CYCLING IN COPENHAGEN

In Copenhagen there is a network of stakeholders working on bicycle planning. The main actor is the city of Copenhagen and its traffic department, where an office for cycling is seated. According to Kåstrup (2013,1) "the City of Copenhagen meets with the local branch of the Danish Cyclist Federation several times a year to stay updated on general topics of interest and debate. Also local community councils (Lokaludvalg) are involved on a regular basis, as well as other relevant NGOs. For specific traffic projects, for instance a larger reconfiguration of a local shopping street, traffic calming etc., the City is obliged to consult NGOs and local councils throughout the political process".

The Danish Cyclists' Federation is a member-based, non governmental organization that advocates cyclists' interests all over Denmark. It contains a head quarter secretar-

iat, which is located in Copenhagen, and local branches all over the country. (Cp. [www.cyklistforbundet.dk](http://www.cyklistforbundet.dk))

In addition to governmental processes, there is great importance attached on participation of citizens. Every two years a cyclist survey is performed, where about thousand cyclists are asked how satisfied they are with cycling conditions in Copenhagen and “the Results are published in the bi-annual Bicycle Account together with a status on the City's political goals for cycling (...)”. (Cp. Kåstrup 2013, 1) The participative processes also come out through interested citizens who are pleased to contact the cycling office through a website or per mail to advise stakeholders for minor issues, like missing ramps, missing facilities, potholes on cycle tracks and so on. As Kåstrup (ibid.) further explains, “there is a separate budget allocated to fixing these minor repairs that would otherwise easily be forgotten in the large scale budget negotiations”.

#### 4.1.5 CYCLE NETWORK COPENHAGEN

Copenhagen provides a big network of cycle tracks and lanes which covers the whole Copenhagen metropolitan area.

There are three different kinds of driving surfaces for cyclists, which differ through quality and costs of construction and maintenance. Beside classical bike lanes and bike paths, there is a third class of infrastructure. This third class contains so called 'Green Cycle Routes' which are characterized by running “for long stretches through open, recreational areas such as parks and waterfront areas. The routes avoid roads with heavy traffic, crossing them safely and comfortably by means of bridges or special traffic signs and signals. All in all, 22 cycle routes are planned, totalling 110 kilometres. The first 43 kilometres have already been established.” (Cp. City of Copenhagen, 2012b)

The figure below shows a section of a Green Cycle Route in Copenhagen, visualizing an intersection area and further design and layout of the bike path, which is representative for Green Cycle Routes in the city.



*Figure 18: Intersection of a Green Cycle Route and a common road, Copenhagen (Source: Photo by the author)*

It is characterizing for Copenhagen's bicycle network that there is a high percentage of wide bike paths, which are separated from individual motorized modes of transport, by being on an extra level of the road surface. Not separated bike lanes on the road surface are not very common, planning and installation of this class of cycling facility seems to be avoided. As Marie Kåstrup explains on the basis of Istedgade in Copenhagen, that officials also promote not to install cycle tracks at all, “as this would reduce free flow in the street – instead car traffic is slowed by bumps and other measures in the style of the German *Fahrradstrassen*” (cp. Kåstrup 2013, 3).

#### 4.1.5.1 FINANCING

Though the costs of Copenhagen's cycle network seem to be quite high, the city's administration set a clear plan for financing it. As Kåstrup (2013, 1) explains, the general funding of bicycle infrastructure happens in a city wide process, where proposals for relevant bicycle projects are handed in before general budget negotiations start. After choosing the projects to be realized and financed, preparations for the construction start. Additional to city wide financing “in some cases, the City of Copenhagen applies

the Transport Ministry's national bicycle fund for co-financing of bicycle projects". According to the Copenhagen Bicycle Account 2010, "a wide range of projects have been executed and in 2010 alone over DKK 150 million [more than € 20 million, note] has been allocated to new investments in cycling facilities" (City of Copenhagen 2011a, 10).

## 4.2 CYCLING IN MUNICH

As the capital city of the Bavarian republic, Munich counts around 1.4 million inhabitants (cp. Statistisches Amt der Landeshauptstadt München, 2013). As comparable city to Vienna, regarding population and spatial extent, the city of Munich shows a higher ratio of cyclists in modal share than Vienna. What are the reasons for this phenomenon? The city's administration seemed to recognize the according benefits of enhanced cycling policies in cities quite soon, which is getting visible in modal share throughout the last decade. Stakeholders, like official authorities and NGO's started to work on cycling issues in the city and cycling conditions started to get upgraded. Both, ridership and officials participate in cycling as mode of transportation and try to focus on cycling issues more and more.

### 4.2.1 MODAL SHARE MUNICH

The modal share of Munich shows a pretty homogenous distribution over the four modes of transportation. In comparison with Copenhagen, especially the ratio for walking shows a significant difference. The ratio for individual motorized transportation is 33%, this seems to be quite high for a big city with a relatively high ratio for cycling as well. For a middle European metropolis and in comparison with other German cities, the ratio for cycling with 17% can be interpreted as the outcome of political ambition and public interest.

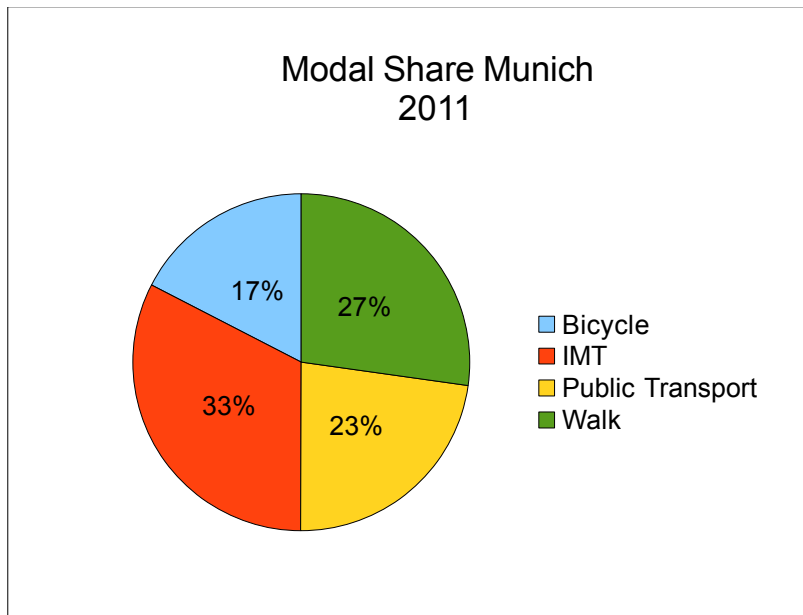


Figure 19: Modal Share Munich (Source: Own illustration. Cp. Institut für Raumentwicklung und Kommunikation 2011, 9)

Looking on the development of modal share in Munich from 2002 to 2011 statistics show that the ratio for cycling rose from around 10% to 17%, which had decreasing effect especially on the ratio of IMT and a smaller decreasing effect on the walking ratio. (Cp. Institut für Raumentwicklung und Kommunikation 2011, 9) 50% of all residents in Munich cycle at least once a week (cp. Landeshauptstadt München 2010, 23).

#### 4.2.2 WHO CYCLES WHEN AND WHY?

Cycling seems to be a fully integrated traffic mode in Munich, as it is used for different kinds of travel purposes. Though statistics show a tendency in leisure cycling, with a ratio of 35%, the bicycle is also used for commuting to work or to education as well as for shopping trips and other purposes. The high integration of the bicycle in commuting is also represented through the number of cyclists during cold weather periods and in winter-months.

Based on a survey in 2008, more than 70% of the interviewed persons stated their satisfaction with Munich's traffic system for cyclists, as they considered cycling in Munich to be good or excellent. Nearly 80% of Munich's residents do own a bicycle, statistics

show that over 50% of them uses the bicycle at least once a week. (Cp. Landeshauptstadt München 2010, 23-25).

#### 4.2.3 MUNICH'S STRATEGIES AND POLICIES

Though the cities of Copenhagen as well as Munich already show a high ratio of cycling, the set targets are not reached yet. Similar to the City of Copenhagen, Munich has launched several strategies, initiatives and plans for enhancing bicycle mobility in the city.

The most important papers will be outlined in the following.

##### 4.2.3.1 TRAFFIC DEVELOPMENT PLAN – CYCLING (VEP-R)

At the very beginning of official work papers regarding bicycle planning there are 'Traffic Development Plans', also with main focus on cycling. They are existing since 1986 and represent a basis for further improvement of the bicycle network. The current version was launched in 2002. It states a city wide network of cycle routes, which is meant to provide fast, safe and comfortable reachability of any destination in the metropolitan area. This target should be fulfilled throughout all four seasons, any weather conditions and by night. (Cp. Landeshauptstadt München, Referat für Stadtplanung und Bauordnung, 2012b)

##### 4.2.3.2 BICYCLE TRAFFIC IN MUNICH – A RESOLUTION

In 2009, the city council of Munich launched the 'Bicycle Traffic in Munich' – resolution (german translation: Grundsatzbeschluss Radverkehr, note) (Landeshauptstadt München, 2009), which is representing the main work paper regarding cycling and bicycle policy at the present and can be seen as a bicycle master plan for Munich. Containing a number of goals for the near future, also recommendations for action in the field of bicycle planning can be found.

The main goals to reach until the year the 2015 tackle issues like modal share, safety or bicycle parking facilities. More precisely, this means the share of cycling in modal split to increase by 3% relative to 2008. Further, the development of a general parking space regulation for bicycles as conducive tool for enhanced provision of bicycle parking facili-

ties and thus an increase in cycling in the city. Here, the main focus is on parking facilities in areas with a high number of old buildings, where residents do not have access to safe parking facilities inside the apartment buildings. Additional 'bike and ride' capacities are meant to be increased, as well as the improvement of bike garages is planned. Infrastructural measures also tackle further opening of one way streets for cyclists. Regarding to safety, no concrete goals in form of figures are set, but a general statement with the aim to reduce the number of injured and killed cyclists in traffic in spite of continuously increasing share of cyclists in the streets is made. (Cp. Landeshauptstadt München 2009, 24)

Regarding physical provision of cycle routes, clear plans for improvement of adequate facilities along main streets as well as connections through green areas and light traffic areas are expressed. This also includes to provide cycle tracks with certain quality standards regarding to lighting, boarding, width and radii. (Cp. Landeshauptstadt München 2009, 10f). As the resolution was launched in 2009, several goals are reached or even topped already, for example the ratio for cycling in modal share.

#### 4.2.3.3 MARKETING - BIKE CAPITAL MUNICH

As one additional aim of the resolution 'Bicycle Traffic in Munich' and in line with the 'Traffic and Mobility Management Plan' (german translation: Verkehrs -und Mobilitätsmanagementplan – VMP, note) strategies for traffic control with focus on target group oriented information, motivation, education and guidance should be developed. Here, the main focus is on marketing and promotion of bicycle traffic. Therefore, the launch of a marketing campaign was planned and outlined for 2010. The concept is meant to serve as frame for several small campaigns which tackle certain target groups and different issues. (Cp. Landeshauptstadt München 2009, 17ff.)

As main tool for fulfilling the above mentioned and additional goals, a big marketing campaign was launched in spring 2010. The stated aim of 'Radlhauptstadt München' (possible translation: bike capital Munich, note) is to strengthen the image of cycling as future oriented mode of transport and to drawing residents' attention on cycling. Over the time mobility patterns should be questioned and a growing motivation for switching to cycling as travel mode should be given. The ideal outcome is the development of a deeply anchored bicycle culture. (Cp. Landeshauptstadt München 2010, 20)

#### 4.2.3.4 CHARTER FOR BICYCLE PARKING

By recognition of the increasing number of cyclists and bicycles, the city council of Munich started to reconsider existing legal frameworks.

A clear statement was set by the launch of a charter for bicycle parking (german title: Fahrradabstellplatzsatzung – FabS, note) (cp. Landeshauptstadt München, Referat für Stadtplanung und Bauordnung, 2012a), as there is also a charter for car parking in the city.

With the charter for bicycle parking, a clear legal frame for provision of bicycle parking facilities on private space in the metropolitan area was launched. The aim is to provide enough facilities for the growing demand of parking space and hence to conduct the trend of cycling in the city. Beside the ongoing process of increasing the number of bicycle parking facilities in public space, now private land holders also are asked to provide certain facilities. The new FabS tries to fill this gap with clear regulations for different kinds of private buildings. The FabS is deemed to be an addition to the bavarian building code and it's already existing but wage regulation regarding bicycle parking. "It defines, how many parking lots are needed to be built and which minimum requirements are needed to be fulfilled. The amount is depending on utilization of the physical structure and it's requirements. (...) The obligation of construction is valid for all new constructed buildings, modifications and changes of utilization, if thereby additional parking lots for bicycles get necessary." (Cp. Landeshauptstadt München, Referat für Stadtplanung und Bauordnung 2012a, 2, translated by the author)

Exemplified this leads to the bench mark of one parking lot per 40m<sup>2</sup> living space in apartments (excluded are single -and two family houses), or to one parking lot per 120m<sup>2</sup> chargeable effective surface in offices and administrations. (Cp. Landeshauptstadt München, Referat für Stadtplanung und Bauordnung 2012a, 7)

#### 4.2.4 PLANNING FOR CYCLING IN MUNICH

As planning for cycling represents a complex issue concerning involved stakeholders and planning processes, the complex case of munich will be explained in the following. According to Von Sassen (2013, 1) bicycle issues tackle the building division, the division for city planning and building code, the department of public order, the department of environment and health as well as the department of labor and economic development.



Beside public departments of the city council there are several other cycling related organizations in Munich. The 'ADFC München' is the Munich branch of ADFC, which is a bicycle club and represents a bicycle lobby in Germany, similar to the Danish Cyclists' Federation and automobile clubs all over the world. (Cp. adfc – allgemeiner deutscher Fahrrad Club, 2013) The second institution is 'Green City' which is an ecology group in Munich. Working on initiatives and advocacy for climate protection, agreeable urban mobility, sustainable urban design as well as environmental education (cp. Green City, 2013). Further public transportation companies, as well as the police are involved institutions.

According to Von Sassen (2013, 1), the closest collaboration of the city's departments takes place with these two non-governmental organizations.

For better coordination of municipal stakeholders on part of the city council, the so called 'steering committee cycling' (german translation: Lenkungskreis Radverkehr, note) has been established in 2007. A meeting takes place two times a year where additional strategies should be developed on a higher level, conceptual questions answered and problems of implementation solved. (Cp. Landeshauptstadt München 2010, 13)

The steering committee was founded in addition to the 'Arbeitskreis Radverkehr', which is a commodity team for bicycle traffic in Munich that already is existing since end of the 1970's (cp. Landeshauptstadt München 2009, 6). It consists of several members, like, the building division and the department of environment and health, the ADFC, the police, the MVV and MVG (Munich's transport companies). It's main work field contains in an advisory function under inclusion of external stakeholders and other relevant institutions. The commodity team further "prepares certain issues for following discussion in the steering committee and discusses approaches of working groups with a bigger clique of experts on working level. The commodity team for bicycle traffic represents a general committee and therefore inheres a central role in editing certain subject areas". (Cp. Landeshauptstadt München 2009, 23)

Similar to Copenhagen, but to a smaller extent, participative processes with inclusion of residents take place. This becomes apparent in conducted surveys regarding cycling in Munich. The outcomes help planners and officials to react in an adequate way for further enhancement of cycling. On the other hand, public appearances in form of the website [radlhauptstadt.de](http://radlhauptstadt.de) and the facebook appearance help to connect the interested public with official institutions. (Cp. Von Sassen, 2013,1)

#### 4.2.5 CYCLE NETWORK MUNICH

The bicycle network of Munich contains of fourteen cycle routes which lead in the inner city in a radial way. In addition to these routes, three ringlike routes connect them. In between lays a dense network of overall main cycle routes and side routes. This complex network provides the connection between the districts. The routes are located along main roads, in restricted speed zones, parks and green areas of the city. Separated bike paths and bike lanes are seen to be necessary on main streets with heavy traffic, where especially intersection areas have to be developed for secure and visible cycling. (Cp. Landeshauptstadt München, Referat für Stadtplanung und Bauordnung, 2012b)

##### 4.2.5.1 FINANCING

As the sector of financing of physical provision for bicycles is a significant factor in bicycle planning, the city of Munich has launched a metropolitan allowance for bicycle traffic. In 2009, with the launch of the bicycle resolution, the city wide allowance was raised from €1.5 million to €4.5 million (cp. Landeshauptstad München 2009, 29). In 2012, the allowance for bicycle traffic (german translation: Radverkehrspauschale, note) was re-defined in allowance for local mobility (german translation: Nahmobilitätspauschale, note), so that projects for pedestrians could also be financed from this resort. The allocated money is administered by the municipal building division. (Cp. Von Sassen 2103, 2)

Since 1992, €33 million had been invested in bicycle infrastructure and bicycle traffic measures, which had been contributed by the annual allowance for bicycle infrastructure (cp. Landeshauptstadt München, Referat für Stadtplanung und Bauordnung 2010, 9).

#### 4.3 CYCLING IN VIENNA

Comparing to Munich, the city of Vienna counts around 1.7 million inhabitants by a spatial extent of 415km<sup>2</sup> (cp. Stadt Wien, Magistratsabteilung für Stadtentwicklung und Stadtplanung, MA18 2010, 72) and thus shows similar underlying data.

Like other European cities, also Vienna and it's city council started to recognize the significance of alternative modes of transportation and the positive trend can be experi-

enced in a slightly increase of the cycling-ratio in modal share (cp. Wiener Stadtwerke 2013).

#### 4.3.1 MODAL SHARE VIENNA

Having a look on statistical data, modal share of Vienna shows a quite different situation in comparison with the cities of Munich or Copenhagen.

The figure below visualizes the ratio for cycling, walking, public transportation and individual motorized transportation. Modal share in Vienna is characterized by a high ratio of public transportation, which amounts nearly 40%. The modes of walking and individual motorized transportation show the same tendencies with 28% and 27%, whereupon the ratio for cycling shows the smallest amount with 6%.

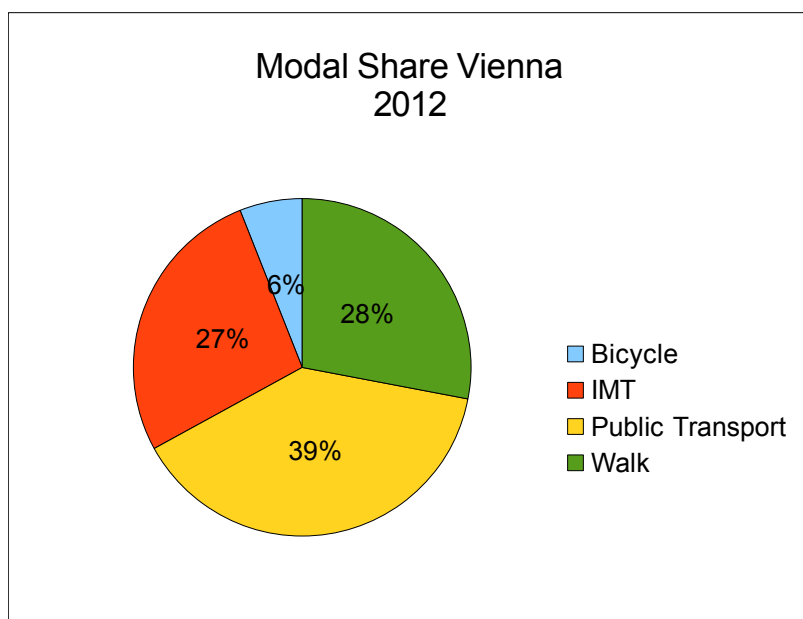


Figure 20: Modal Share Vienna (Source: Own illustration. Cp. Wiener Stadtwerke 2013)

The figure below visualizes the development of modal share during the last decade, from 1993 to 2012. The observed tendencies are a consistent increase of public transportation and a consistent but slow increase of cycling. The ratio of walking shows only light variation, as it stays on a nearly constant level of 28%. This is quite high in compar-

ison to Munich or Copenhagen. The ratio of individual motorized transportation shows decreasing tendencies at the same time.

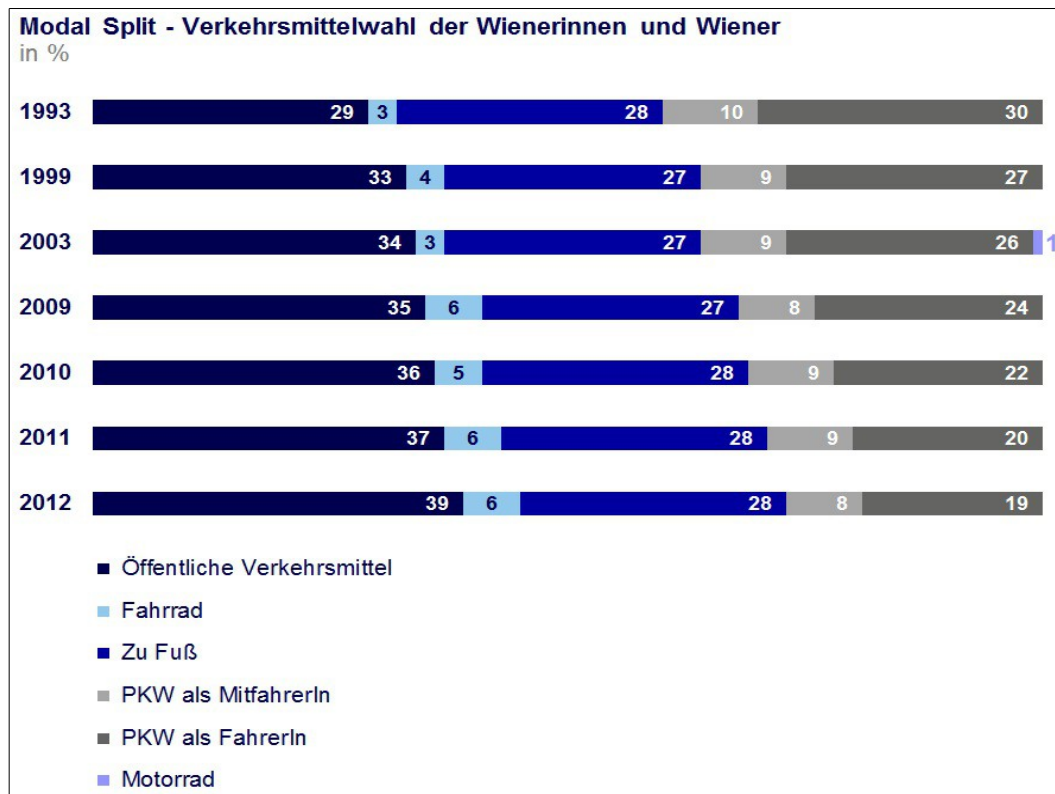


Figure 21: Viennese Choice of Transport mode from 1993-2012 (Source: Wiener Stadtwerke, 2013)

Additional data, provided through automatic traffic counting systems at ten points throughout the city, additional manual counting and surveys, show a significant increase in the number of cyclists in Viennese streets throughout the last recent years. This becomes apparent in a 20% increase of cyclists from the year 2011 to 2012. In particular this means not just a growing number of cyclists, but also changing purposes of travel. (Cp. Radagentur Wien 2012, 4)

In relation to travel purposes and chosen mode of transport it seems to be crucial to mention that the majority of travels within the city show a value of around 5km.

In comparison to 'classical cycling cities', this value seems to be quite high, as the Bicycle Traffic Survey (german translation: Radverkehrserhebung, note) highlights in 2010. Practice shows, that travel distances within 5km are most suitable for the bicycle

whereas statistics show that there is already a relatively a high amount of travels made by bike within distances from 1km to 3km but the amount of travels made by bike within distances from 3km to 5km still remains space for further development. (Cp. Stadt Wien, Magistratsabteilung für Stadtentwicklung und Stadtplanung, MA18 2010, 27)

These figures suggest to the finding, that distances under 5km often are covered by other modes of transportation which visualizes the high potential in increasing cycling-ratio in this sector.

#### 4.3.2 WHO CYCLES WHEN AND WHY?

The Bicycle Report of 2012 highlights a growing numbers of cyclists in the streets in relation to a growing tendency and preference to commuter cycling. This comes out through a higher cycling-ratio on weekdays but on the weekends which represents a growing acceptance of cycling in general as well as the significance of the bicycle for commuting and daily ways. (Cp. Radagentur Wien 2012, 4)

Further statistics show dependencies on weather and season, which clearly point out increased cycle use in summer months and good weather periods and in contrast decreased cycle use in winter terms and days with rainy weather. Around 60% of Viennese cyclists do cycle daily or at least several times a week. The most common reason for Viennese cyclists to take a bike, is fun (17%), followed by remaining active (15%). Only 12% take the bicycle because of the fact of being faster than by taking a car or to travel by public transportation, which differs a lot from statistics of Copenhagen. Respectively 11% choose the bicycle as travel mode because of financial (cheaper than car or public transportation) or health (loosing weight, gain good mood) and sporty (the bicycle as peace of sports equipment) reasons. Last but not least 6% choose the bicycle for ecological reasons (environmental protection). (Cp. Radagentur Wien 2012, 6ff.)

According to statistical data, there are strong local differences in cycle use within the city's areas, as well as there are specific tendencies in relation to sociodemographic features. In this field the highest proportion of bicycle traffic can be seen in the age group of 30-50 years as well as in the group of well educated persons. Clearly under-represented is the youngest age group (under 19 years) as well as the older age group (60 years and older, retirees). (Cp. Stadt Wien, Magistratsabteilung für Stadtentwicklung und Stadtplanung, MA18 2010, 17f. & 22)

### 4.3.3 VIENNESE STRATEGIES AND POLICIES

Beside the already mentioned national Cycle Master Plan, which clearly involves and coordinates federal strategies and policies for cycling as they are in responsibility of the federal states, the City of Vienna developed working papers which try to organize and to develop citywide concept for the enhancement of cycling. Here, the initial position lays at a ratio of cycling of around 6% in modal split, which shows, that there is still a lot to do.

The adaption of legal and infrastructural circumstances now slowly starts. Especially over the last few years a growing public interest and political activity for better cycling conditions and the general aim to integrate the bicycle as a fully acknowledged mode of daily transportation can be observed. Since the political landscape was changed by elections in the year 2010, coalition talks between the Green Party and the Social Democratic Party began. Urban mobility and accompanying planning, which clearly includes cycling, got more innovative and sustainable directions.

#### 4.3.3.1 COALITION PAPER BETWEEN RED AND GREEN

The social democratic-green coalition and the accompanying coalition agreement serve as the basis of several initiatives and strategies concerning the enhancement of cycling in Vienna. As The Green Party was entrusted with the departments for Traffic, City Planning, Environmental Protection and Energy, also bicycle planning fell under their responsibility. So, the coalition agreement clearly states within the frame of a new traffic system, which is meant to be launched in 2013, the aim to increase bicycle traffic in Vienna to a proportion of 10% in modal share which is meant to be reached until the year 2015. Under the slogan 'smart mobility' and the use of ITS (Intelligent Travel System), following the example of Copenhagen, the new traffic concept is meant to be developed in a participative process with adaption of changing circumstances and needs of citizens. (Cp. Stadt Wien 2010, 60).

#### 4.3.3.2 TRAFFIC MASTER PLAN

Analyzing the Traffic Master Plan (german translation: Masterplan Verkehr, note) which was already launched in 2003, this precursor of the new developing traffic system and the coalition agreement of 2010, subjects to the advice of 'smart mobility' yet. As the

'Traffic Master Plan' targets on the period to 2020, an evaluation and extrapolation of this paper was published in 2008.

As the Master Plan contains general traffic issues and aims, basic findings and further recommended procedures regarding bicycle traffic can also partly be found in the section of mobility and transportation in the current 'City Development Plan' (german translation: Stadtentwicklungsplan, note) (cp. Stadt Wien, Magistratsabteilung für Stadtentwicklung und Stadtplanung, MA18 2005, 64ff.) which was launched in 2005 and represents one of the most important guidelines for Viennese city development and planning. The figure below shows the 'Pentagon of Smart Mobility' which joins the principles and targets of sustainability, innovation, cooperation, acceptance and efficiency.

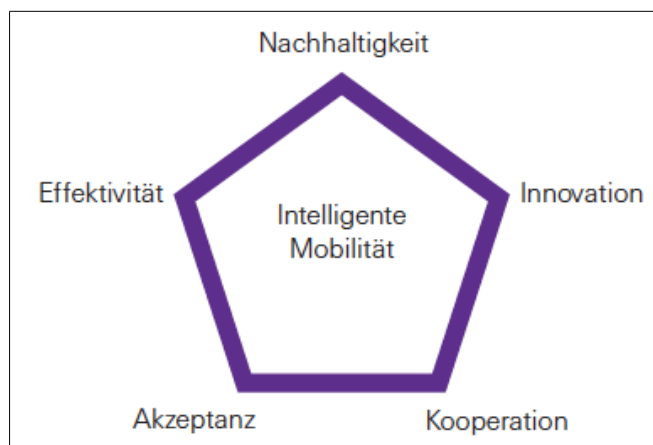


Figure 22: Pentagon of Smart Mobility (Source: Stadt Wien 2006, 10)

As this also shows great relevance for the bicycle as mode of transportation, the City of Vienna stated several aims to reach in this field.

Starting with modal share, the Traffic Master Plan of 2003 targets the increase of the bicycle-ratio to 8%, as soon as possible. Additional, in relation to modal share, it also targets a decrease of individual motorized transportation to 25% in modal share and an increase of public transportation from 34% to 40%. By targeting issues of mobility sustainable social developments as well as a sustainable environmental developments stand beside sustainable economical developments. Especially the first two factors tackle cy-

cling issues in equal accessibility of mobility as well as reduction of traffic-caused CO<sup>2</sup> emissions and reduction of traffic-caused noise disturbance. (Cp. Stadt Wien 2006, 10f.) Further already in 2003, when the plan was launched, targets concerning the development of generally bicycle-friendly circumstances in traffic and the closure of gaps in the infrastructural cycle network had been formulated. Last but not least juristic goals are formulated by targeting a repeal of the general obligation to use bike lanes and bike paths as well as traffic development under the principle of mixed use. In Addition to this, opening one way streets for cyclists should become general condition. (Cp. Stadt Wien 2006, 24f.)

#### 4.3.3.3 CLIMATE PROTECTION PROGRAM

Similar to Copenhagen and other European cities, also Vienna launched a program for climate protection, as responsible stakeholders saw the necessity to reduce greenhouse gases and to develop solution statements for city development with ecological and sustainable character.

The main focus in relation to cycling is on reduction of greenhouse gases, especially of CO<sup>2</sup> emissions, where the bicycle as mode of transportation plays an important role. As main target, the program defines an 8% ratio of cycling in modal share until the year 2015, which is congruent with the evaluated version of the 'Traffic Master Plan'.

Analyzing the Viennese 'Climate Protection Program' (german: Klimaschutzprogramm Wien, short: KliP Wien, note) shows also a focus on issues of transportation and mobility in the city, as this is formulated through a field of action, called 'mobility and urban structure'. After the first 'Climate Protection Program' (short: KliP I, note) was launched for the period 1999-2009 and was proved as best practice model, the current program was developed. It runs from 2010 to 2020.

Within this field of action bicycle traffic is part of therefore developed action programs. Here measures for general enhancement of cycling and cycling related issues are presented in a surprisingly detailed way, as other official papers often show a lack of detailed information and concrete approaches.

The 'Climate Protection Program' might suggest a more environmental than traffic planning focus, anyway. In this connection organizational measures, juristic frameworks, infrastructure, communication and sensitization as well as knowledge -and mobility man-



agement are discussed. Organizational measures handle external and internal township coordination and management. Juristic frameworks tackle adequate legal solutions for bicycle use in public but also in private space, where a charter for bicycle parking – similar to Munich –, the repeal of the general obligation to use a bike lane or bike path as well as particular rules according right of way are discussed. Infrastructural measures handle the enhanced provision of the existing main cycle network, the district wide cycle networks as well as the area-wide opening one way streets for cyclists. In this field, the enhanced provision of bicycle parking facilities as well as evaluation, signage, the city bikes and the enhanced combination of cycling and public transportation is tried to be managed more efficiently. Communication related measures handle the development of a marketing concept which is meant to be adapted to certain target groups, a specific web presence as well as the enhanced integration of cycling related promotion in Viennese tourism.

(Cp. Stadt Wien 2009, 116-123)

#### 4.3.3.4 RESOLUTION – CYCLING IN VIENNA

After several years of declarations of intent to increase cycling and cycling conditions in Vienna, slowly noticeable measures and changes in political approaches, the city council recently published a proposal for a resolution regarding cycling in Vienna. The 'Resolution Cycling in Vienna' (german translation: Grundsatzbeschluss Radfahren in Wien, note) (cp. Stadt Wien 2013) was adopted by a majority of the members in the city council in May 2013. Similar to Munich, the resolution states the official approach of the city's council regarding cycling policy.

It was adopted for pointing out the responsibility of Vienna's city council for taking actions which enhance the change of transportation modes from automobile to bicycle. The bicycle should be enhanced as mode of transportation for everyday traffic and managed by adequate measures. (Cp. Stadt Wien 2013, 2)

Analyzing the brand new resolution regarding concrete measures and figures the outcome bears great analogy with already existing and adopted concepts. More precisely, this means analogy in a major number of stated measures with the 'Traffic Master Plan', which first version already was adapted in 2003 and the 'Climate Protection Program',

launched in 2009. Both of them had been adopted by the city's council and are meant to represent the official approach regarding cycling issues.

So, the tackled issues regarding the enhancement of cycling reach from development of a bicycle friendly urban environment in general to better connections of bicycle use and public transportation. On top, again the city's goal of a 10% cycling-ratio on modal share until 2015 can be found, which is different to the already discussed strategies, as they claim a rise to 8%. Also further development and evaluation of the public City Bike system as well as enhanced construction of bicycle parking facilities in public and private space, also through an adequate legal framework are stated. In this connection, also the repeal of using a bike lane or bike path is stated, although with modification by adding the crucial sentence:” (...) where transport safety is allowing this” (cp. Stadt Wien 2013, 9, translated by the author, note). Last but not least further enhancement of area-wide opening of one way streets for cyclists and comprehensive promotion initiatives are stated. (Cp. Stadt Wien 2013, 3-8)

The question remaining is, what claims and measures are new and innovative within this resolution? Here, only a few topics can be pointed out.

The most important point can be seen in the official statement, that “the City of Vienna faces up with challenges which are connected to advancements concerning transport policy that focuses on a bicycle-friendly urban environment. The aim is, that this re-orientation should succeed in dialog with citizens”. (cp. City of Vienna 2013, 8, translated by the author, note). Concerning bicycle infrastructure, the development of long-distance connections, further enhancement of synchronized traffic lights for cyclists to provide fluent traveling (green wave) as well as the construction of 'Fahrradstraßen' are stated. (Cp. Stadt Wien 2013, 9).

#### 4.3.3.5 PROMOTION AND ADVERTISEMENT

As the discussed publications set the goal develop an adequate promotion campaign for targeting as many citizens as possible in relation to cycling in Vienna, this was realized by launching the 'Fahrrad Wien' campaign (cp. [www.fahrradwien.at](http://www.fahrradwien.at)) Comparable to the bike campaign in Munich, the Viennese version unites public activities which stand in relation to urban bicycling under a benchmark. The web presence combines information, advertising and participation under one logo.



*Figure 23: Logo  
Fahrrad Wien (Source:  
[http://www.fahrradwien.at/wp-content/uploads/2012/09/logo\\_fahrradwien.png](http://www.fahrradwien.at/wp-content/uploads/2012/09/logo_fahrradwien.png), access:  
01.06.2013)*

#### 4.3.4 PLANNING FOR CYCLING IN VIENNA

As the Viennese urban administration represents a complex structure containing of many departments which are tackled by cycling issues and planning for cycling, this will be explained in the following.

Viennese bicycle planning was managed in a central way over a long period of time. The city council's decision and final judgement for decentralization of bicycle planning in Vienna came in the year 1997. With this decision, bicycle planning was in responsibility of the 23 Viennese districts' principals. Soon it was clear, that efficient bicycle planning was not possible any more, so that in the year of 2003 the bicycle planning for the main network of cycle routes was centralized again. The current basic condition is a complex mixture of responsibilities between the city council and the districts. Additional several other stakeholders are involved in planning issues and are able to exert influence on certain decisions.

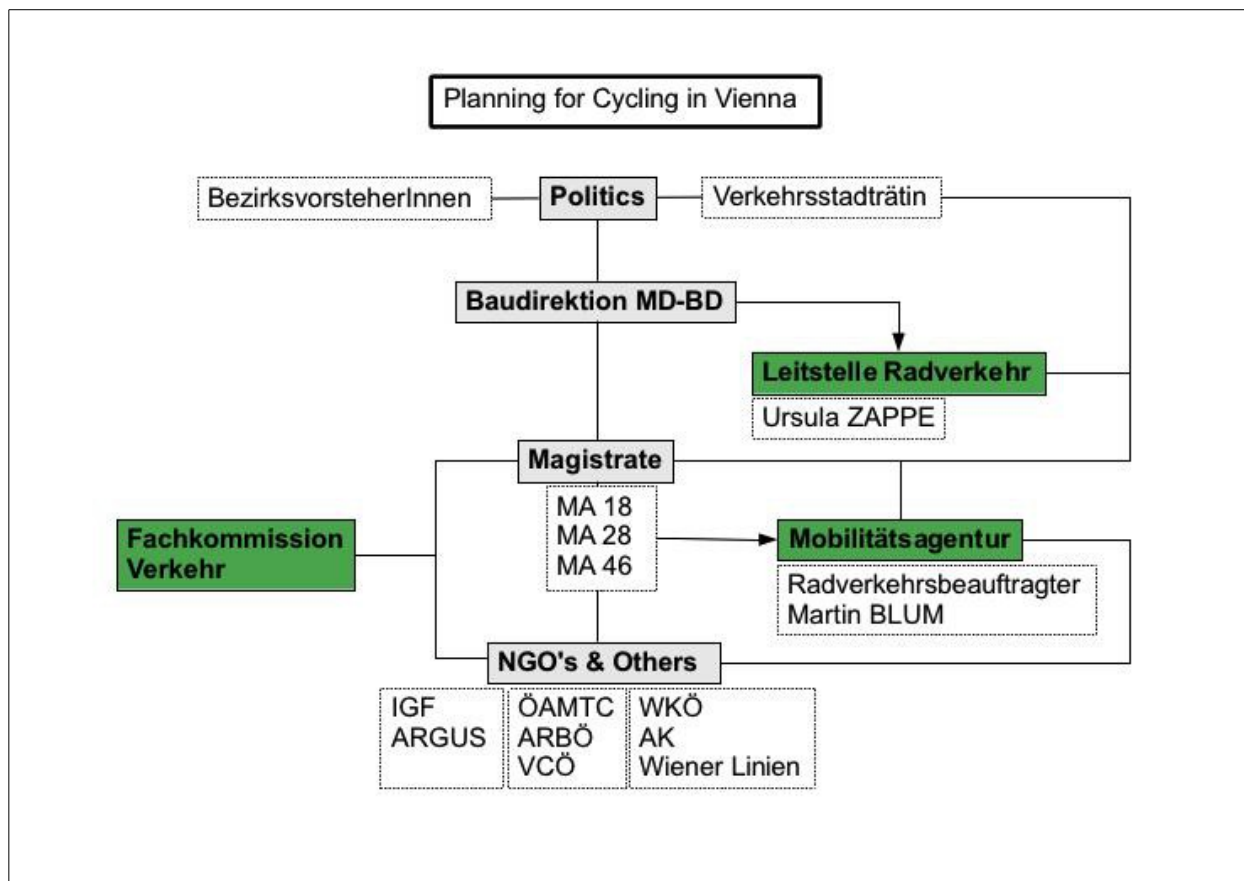


Figure 24: Organization Plan of Cycling Related Institutions within the City of Vienna (Source: Own illustration. Cp. Hager 2013, transliteration 2, 35-46)

The illustration above explains the structure of planning involved institutions and organizations within the City of Vienna. The first position to mention in politics is the councillor of the division for traffic (german translation: Verkehrsstadträtin, note), Maria Vassilakou. She is responsible for general management and conduction of cycling related planning issues and represents the most important political stakeholder in this field. Beside the councillor, also the districts' principals have significant power to influence bicycle planning after decentralization of bicycle planning, as explained above.

The building management (german translation: Baudirektion, note) is a superior authority of the city's departments in the frame of the directorate of the municipal authorities. It controls, channels and coordinates technical affairs on behalf of the Viennese citizens, which also tackles realization and construction of physical provision for cycling.

The next field of action is represented by the different departments which are working on cycling issues. This can be seen as the center of bicycle planning. Here, the Depart-

ment for City Planning and City Development (MA 18), the Department for Road Administration and Road Construction (MA 28) and the Department for Transport Organization and Technical Transportation Affairs (MA 46) are responsible for bicycle planning in many different fields. More precisely, the superior bicycle planning is in responsibility of the MA 18, whereas the detailed planning is made by the MA 28. The MA 46 manages implementation as well as coordination of cycle routes. (Cp. Hager 2013, transliteration 2, 35-46)

An additional department, not visualized in the figure above, which also is involved in cycling issues at least marginal, is the MA 33. As this department is responsible for public lighting, it is also in charge of traffic lights, which tackles cycling issues, too. Especially in relation to improved conditions for fluent cycling through implementation of green waves for cyclists in traffic.

Last but not least several NGO's and other institutions work on bicycle planning and bicycle related issues in cooperation of the responsible departments at the city council. The most important and active advocates of cycling in Vienna are the IGF (Interessensgemeinschaft Fahrrad) and ARGUS, which cooperate in the form of joint advocacy, too, also at federal level, recently. Automobile clubs as well as the VCÖ, which can be described as 'mobility club' as it advocates sustainable mobility through all modes of transportation, are involved in plannings and negotiations with the city council, as well. The last stakeholders to mention are representatives of the Austrian Chamber of Commerce and the Chamber of Labour as well as public transportation companies, which are also involved and have a significant influence.

To structure and coordinate the work of the different stakeholders and institutions, several platforms, similar to Munich, had been developed, which are explained in the following.

A special role is given to the Agency for Mobility (german translation: Mobilitätsagentur, note), as it is part of the MA 28 formally but sourced out and acting as a limited liability corporation in a self-contained way. Here, the Viennese Cycling Officer (german translation: Radverkehrsbeauftragter, note) currently administrates cycling related issues, especially in the field of public relations and advocacy for Viennese cyclists. As the Agency for Mobility is not only working on cycling issues but also on pedestrian agendas, there was a Pedestrian Officer implemented, too, who now works in cooperation with the Cycling Officer.

The competences to take influence on infrastructural and planning issues can definitely be seen on the side of the certain city departments and other groups of interest, like the public transportation company and are not part of the agency yet. Hager (2013, transliteration 3, 72-87 & 63-67) pointed out how important the role of the Cycling Officer is, especially in the field of improved communication and further dialog, as the Agency for Mobility also is acting as interface between the magistrates and the NGO's. Further he highlighted the predicament of acting intermediary between city council and cyclists on the one hand but being employee of the city council on the other hand. Further he sees necessity to adjust the field of competence to more infrastructural issues (cp. Ibid.).

Beside the Agency for Mobility, the most important platform can be seen in the Expert Commission for Traffic (german translation: Fachkommission Verkehr, note), where all (bicycle)traffic related issues are discussed by responsible stakeholders of the city council and participating NGO's and the other organizations on working level.

As third institution the coordination center for bicycle traffic (german translation: Leitstelle Radverkehr, note) was implemented by the building management for better internal coordination between the three main magistrates (MA 18, MA 28, MA 46), which are working on bicycle traffic issues, the Agency for Mobility and the responsible City Councillor. (Cp. Hager 2013, transliteration 2, 43-46)

Theoretically, cooperation and planning for cycling seems to work well and efficiently, in practice, Hager (2013, 2f., 51-67) states several problems and points of conflict which often come up in negotiations. He mentions problems concerning the districts' authorities in relation to construction of new bicycle infrastructure, as the districts have the most influence on principle decisions. Often, heads of districts anticipate construction of physical provision for bicycles because of the needed space, even though the planning magistrates worked out good solutions. Developing bicycle infrastructure often implies a decrease in parking spaces for automobiles in certain streets and heads of the districts often worry about losing the voting public by losing parking spaces. Further Hager mentions a second big player with a lot of influence in bicycle planning issues, which are the Wiener Linien, the public transportation company. Here representatives often seem to worry about 'their' space as well and seem to have a general negative or skeptical attitude to cycling, as an increase of bicycle traffic also means a slight decrease in public transportation.

Although there are several points of conflict, Hager also points out improved conditions for inclusionary negotiations between bicycle NGO's and official public stakeholders of the city council since the Red-Green Coalition in Vienna.

#### 4.3.5 CYCLE NETWORK VIENNA

The Viennese bicycle network consists of a main network of bike paths and bike lanes as well as a network of smaller routes, paths and lanes. The first bike path was implemented in the 1950ies, which seems to be quite late, when comparing with the cities of Munich and Copenhagen.

Today, the Viennese bicycle network counts 1200km, whereupon this figure includes all kinds of areas which are not closed for bicycles. In detail this means that over 50% of the cycle network consists of residential areas, pedestrian areas, traffic-calmed areas and separated bicycle routes, like the Donaukanal-Route, where no or minimal extra physical provision for cyclists had to be constructed. The other half consists of separated bike paths on the one hand and bike lanes on the other hand. (Cp. Löschenbrand 2012, 11) As the construction of bike lanes and paths for mixed-use (bicycles and pedestrians share the same space, mostly on sidewalks) is cheap, this kind of physical provision seems to be quite popular in planning institutions.

##### 4.3.5.1 FINANCING

Financing of Viennese bicycle infrastructure with focus on bike lanes and bike paths is in close connection to the already mentioned decentralization of bicycle planning, as this also tackles financing of them. In detail this means that the main cycle network, which is in charge of the city council, is also financed through the city council. Smaller cycle routes which do not belong to the main cycle network are in charge of the district's and have also to be financed through the districts. (Cp. Hager 2013, transliteration 3, 59-60)

In general, Hager (2013, transliteration 5f, 155-156 & 168-169) points out that there is a budget for bicycle infrastructure which amounts around five million Euro per year. Additional, a budget for physical provision in general traffic issues is allocated, where also bicycle infrastructure often gets financed. Last but not least, funds for bicycle infrastruc-

ture also should be allocated throughout the parking space management, which area was extended recently.

## 5 POLICY TRANSFER IN THE FIELD OF CYCLING

As this paper basically focuses on the City of Vienna, with regard to the cities of Munich and Copenhagen, one of the main questions is, what Vienna can learn from Munich and Copenhagen regarding to cycling policies and planning for cycling. Therefore this chapter will discuss the issues of best practices and policy transfer with focus on transportation and cycling. How far are best practices and policies transferable from one city to another and which components do have to be considered, especially in the field of cycling?

### 5.1 BEST PRACTICE

Best practices can be defined as methods or techniques that show better or even best results in a certain field, so they are also used as benchmarks. With regard on cycling issues, this might be seen also for the case of Copenhagen, as the city and its policy in city development and planning for cycling is seen as role model for other cities all over Europe and all over the world.

The concept of good or best practice can be observed in many European policies and programs through many fields of action, as identification, promotion and dissemination of this concept “will help to contribute to transnational learning and lead to improvements in policy and practice” (cp. Stead 2012, 104).

Critics now postulate, that cities which show good or best practices in the field of urban public policies often try to expose and sell innovative policies, especially on the European level. Here, to be highly ranked and used as a benchmark brings good image on the one hand and can also attract additional money through European fundings or from the federal government on the other hand. (Cp. Stead 2012, 109)

This also tackles transferability of good or best practices, as “accounts of best practices are often condensed and sanitized and lacking in detail for application elsewhere” so that best practices often are 'good news stories' which obscure failures or difficulties



along the way (cp. Stead 2012, 108f.). In these certain cases, transferability has to be questioned.

Anyway movement and transfer of policies and best practices across the globe in space and time can be observed more often and widespread recently, also caused, eased and advanced through modern techniques of communication and interaction between local, national or international stakeholders.

## 5.2 POLICY TRANSFER

One common definition of policy transfer is quoted by Marsden & Stead (2010, 493) after Dolowitz and Marsh (1996) which “states that policy transfer is 'a process in which knowledge about policies, administrative arrangements, institutions, etc. in one time and/or place is used in the development of policies, administrative arrangements and institutions in another time and/or place'”.

McCann & Ward (2013, 7) state and claim a change of nomenclature from 'policy transfer' to 'assemblages, mobilities and mutations' because of the complex, selective and multilateral nature of this phenomenon, whereas “‘transfer’ seems to connote a very flat and straightforward process, even if this is not how it is understood by those who developed it and advanced its use”. Though, the term 'policy transfer' will be used below.

As transferring and assembling policies is a complex process, the most important consideration in literature tackles 'equality' and variety of 'lending' and 'borrowing' cities, regions or nations. Stead (2012, 109) for instance states “that it is unlikely that best practices will lead to the same outcomes across different European member states, no matter how faithfully transferred”. Therefore the importance of consideration of different local and national circumstances, especially in the fields of political and administrative culture, jurisdiction, economical and social status, etc. has to be highlighted. Here, Stead (2012, 113) further mentions that “substantial differences in political and administrative culture (...) reduce the relevance and impede applicability of best practices and their transfer” and that “successful transfer also involves processes of learning and adapting”. So, Stakeholders have to be aware of not just to copy policies and strategies from one site to another. This becomes apparent between 'old' and 'new' EU member states, in particular. Additional the advisement, that transferring good practices between regions or cities within the same nation could be more successful than transferring from

a foreign nation is near, as in this case political, juristic and cultural circumstances are the same at least.

What are the reasons for the increasing transfer of policies on local, national or international level and why do actors engage in this process more often? The answer is quite complex and in most cases it lays in between to extremes. On the one side, policy transfer can be chosen by stakeholders voluntarily, where solutions and ideas for new or changing problems are hoped to be found from abroad. On the other side, policy transfer can also be unintended, which often applies to less developed countries or regions. Here governments sometimes can be coerced to adopt policies and programs from others. In most cases of policy transfer, the process lays somewhere in between these two extremes, but uncertainty can be seen as significant factor in many cases. Generally, it can be seen that “policy transfer mainly occurs when there is dissatisfaction with existing policies and this provides a motivation for change in the status quo”. (Cp. Marsden & Stead 2010, 493)

In which ways can policy transfer take place? Basically there can be differentiated a couple of types or degrees of transferring policies. They range from copying (complete transfer) over emulation (transfer of basic ideas, which stand behind the policy) and a mixture of several different policies, to inspiration “where policy in another jurisdiction may inspire policy change but the final outcome does not actually draw upon the original idea” (cp. Marsden & Stead 2010, 495).

There can be seen dependencies between participating stakeholders and the applied degree of transfer, as there are many different kinds of groups involved.

In many cases politicians represent the initiating group of policy transfer, especially in the sector of transportation. Here, also external experts for policy making as well as advocating and non governmental organizations (i.e. environmental groups, road construction lobbyists, automobile clubs, public transportation companies, etc.) are involved. (Cp. Marsden & Stead 2010, 497)

The next question tackles transferrable contents. Here not just the transfer of policy instruments has to be mentioned, but also other transfers which have influence on policy-making. The main components are seen in policy goals, policy content, instruments, programs, institutions, ideologies, ideas, attitudes and negative lessons. Between them, it can be seen that some are more likely to transfer than others, as for example ideologies, ideas and policy goals might be more simple to transfer than instruments, programs or institutions. (Cp. Marsden & Stead 2010, 493)

In order to the topic of this paper, the question after transferrable contents in the field of urban transportation, more specific, in the field of cycling, is near. Examples might be a general (political) statement in form of a resolution that underlines the official and political tenor regarding the importance of enhanced cycle use in urban areas. Further a practical action plan with binding character, which includes concrete implementation plans and goals regarding infrastructure as well as promotion and participation, can be mentioned.

### 5.3 TRAVEL PLANS

To show an example for policy transfer in the field of transportation, the issue of travel plans can be mentioned at this point, as they also focus on sustainable transportation and energy saving and thus also apply to the enhancement of cycling. The development of travel plans follows certain structures, which allow to adapt on the targeted area, which can be seen by several examples worldwide.

By definition, Enoch et. al. (2007, 3) explain, that “a travel plan involves implementing measures aimed at reducing the impacts of travel associated with an organisation's activities.” The focus is on “insuring responsible car use and encouraging alternatives such as walking, cycling and public transport”.

Travel plans are encouraged by local authorities and governments because of their effectiveness in reducing traffic levels by being politically acceptable and inexpensive to introduce (ibid.).

The development of a travel plan can be implemented “by an individual organisation or by a local travel plan group that comprises a number of organisations” (Enoch et. al. 2007, 4).

More specific, “a local travel plan group is a group of organisations that have come together to share resources and ideas for developing and implementing a travel plan in their local area.” (Enoch et.al. 2007, 5) Local travel plan groups are based on a certain location which shows problems in the field of traffic management and related issues as well as on the existence of active local businesses (Cp. Enoch et. al. 2007, 13), as they basically consist of cooperation between public and private businesses stakeholders. Their formation is varying in dependency on the occurring structure of the group, which is defined by four main types. There can be found different approaches and occur-

rences of travel plan groups in literature, the following explanation is based on Enoch et.al (2007).

Development zones are characterized by representing an area of specific use, like Airports, industrial sites, leisure or business parks etc., mostly located in outer urban areas whereas BIDs (Business improvement districts) are characterized by being in partnership with local authorities with the aim to improve environment in a general way in an area within the inner city districts. (Cp. Enoch et. al. 2007, 8f.) Both cases, do not necessarily focus on transportation issues only, but are mentioned at this point in order to completeness.

Transport management organizations (TMOs) / transport management associations (TMAs) do focus on transportation only and are characterized by being “private, non-profit, membercontrolled organisations”. Their area of operation is clearly defined (e.g. commercial districts or industrial parks) and the main field of action is to “coordinate the provision of customised transport services and activities.” Here, financing basically is provided through membership fees. (Cp. Enoch et. al. 2007, 9).

The last form of a local travel plan group are area based group, which “are informal networks of organisations that are developing travel plans and are located within a particular area” (Enoch et. al. 2007, 9) as well. Here the defining characteristic is the existence of “several relatively small businesses that are not grouped into obvious clusters [where] the local authority [is] taking a lead role and developing a travel plan for the businesses to buy into” (Enoch et. al. 2007, 15).

A more sophisticated and detailed explanation of various characteristics and structures of travel plan groups is provided by Travel Plan Plus (2009, 18ff.), where there are five characteristics discussed.

Basically, the scheme below covers the already mentioned attributes by using slightly different designations.

	<b>Neighbourhood Travel Forums (NTFs)</b>	<b>Area Travel Plans (ATPs)</b>	<b>Business Improvement Districts (BIDs)</b>	<b>Transportation Management Associations (TMAs)</b>	<b>Local Transportation Districts (LTDs)</b>
<b>Definition</b>	Informal networks in a loosely defined neighbourhood	Local areas developed for specific uses	LA-business partnership to invest within a defined area	Private, non-profit, member-controlled organisations for defined area	Companies in defined area legally required to develop travel plans
<b>Network structure</b>	Organisations all equal	Leading organisation and members	Coordinating organisation created	Coordinating organisation created	Led by LA coordinating organisation
<b>Leader-member relationship</b>	Common interest – informal	Landlord-tenant – formal	Financial (tax) – very formal	Financial (member fee) – fairly formal	Legal requirement – very formal
<b>Power structure</b>	Power shared equally	Landlord in control	Membership in control	Membership in control	LA in control
<b>Transport only issue?</b>	Yes	Yes	No	Yes	Yes
<b>Primary actor</b>	LA/private companies	DZ/LA	LA initially, then private BID company	LA/private companies	LA
<b>Secondary actors</b>	Private companies/LA	LA/DZ	Private company members	Private company members	Private companies
<b>Role of local authority (voluntary travel plan)</b>	Support	Support	Initiator and facilitator	Support	N/A
<b>Role of local authority (mandatory travel plan)</b>	Support	Regulator	N/A	Regulator	Regulator
<b>Funding</b>	Ad hoc grants, scheme basis	Ad hoc grants, rent	Business levy	Ad hoc	Local authority funded

Figure 25: Attributes of different Travel Plan Groups/Networks (Source: Travel Plan Plus 2009, 18)

Additional in the scheme, LTDs (Local Transportation Districts) can be found, which are also transport-focussed networks. They are less delineated and deal with issues on a neighborhood wide level, which also causes less restricted boundaries. Politically, LTDs “are always pushed by legal requirement” and in addition they “require legislation before they can be introduced if none is currently in place”. (Travel Plan Plus 2009, 19f.)

In general, local travel plan groups are able to provide a link between local businesses and authorities which are working on transport and planning issues in a certain area or city. The intensity of partnership seems to be depending on the character of the group, as the structure is varying between them.

Anyway, Enoch et. al. (2007, 11) emphasize, that “in recent years, a greater emphasis has been placed on the benefits of forming partnerships between government and, for example, community groups or private sector businesses”. This can also be seen in the case of Vienna, where communication and cooperation between organizations and local

authorities in the field of cycling policies and planning for cycling was improved during recent months, as already mentioned. “This allows organisations to have a stronger role in shaping and applying the transport and planning policies that affect them and their local area [and] (...) will enable organisations to get involved (Enoch et. al. 2007, 11)”.

#### 5.4 EUROPEAN ROLE MODELS – WHAT VIENNA CAN LEARN

By choosing Munich and Copenhagen as examples of good practices, it can be ensured, that there are ideas, attitudes, policies and frameworks, which are more likely to copy or to transfer to Vienna, than others.

Basically, when talking about policy transfer in the field of cycling for urban areas, there are three defined fields of action which have to be considered.

The first issue tackles infrastructure, as the main consideration regarding cycling is in dependency with bicycle lanes and bicycle paths, parking facilities and other forms of physical provision. Here, the question is all about available space and its dependence on the basic constructional environment of the city. Here it can be seen that especially the cities of Vienna and Copenhagen show differences in this basic condition. Whereas Copenhagen's townscape is characterized by mostly wide applied streets, Vienna's system of streets and alleys seems to be quite narrow. This becomes apparent in proportioning of the street spaces, where it can be seen that the streets of Copenhagen mostly are able to provide wide enough and broad bike paths beside driving surface for individual motorized modes of transportation. While the structural environment of a city can not be changed in the metropolitan area, it is clearly the matter of priority which can and has to be changed, especially in cases, where street space is more limited caused by physical structure.

Administration of bicycle issues, especially of bicycle planning issues is another core element in comparing the three focussed cities. Here it can be learned, that a centralized administration shows clear advantages, especially in terms of efficiency and holistic planning. Smart and effective administration can be seen as one basic precondition for efficient planning and discussing between various participating stakeholders, as well as there can be seen financial benefits by saving costs through tightening the administrative sector. While Munich and especially Copenhagen seem to have an effective mode of organization and administration, the city of Vienna seems to face problems which are also caused by a quite complex system of competences and a missing link between all

relevant institutions. Here, again Copenhagen can be seen as role model, where the Copenhagen 'Center for Trafik' and the 'Danish Cycling Embassy' organize cycling issues of all kinds in a central way. Munich works on cycling issues in a central way as well, which is administered by the 'Arbeitskreis Radverkehr' since the 1970's.

The Sector of administration also is standing in connection with development and implementation of cycling policies and working papers. Here, a clear line and ambitious implementation can be seen especially in Copenhagen.

The third and last issue tackles awareness raising and bicycle culture. Of course, a certain culture of mobility, as it can be seen in one city, can not be transferred or copied to any other city easily from one day to another. Crucial at this point seems to be awareness of traffic related problems and accompanying solutions and alternatives. This has to be developed on the political and public level as well. Here, policies that enhance sensitization for sustainable city development and alternative modes of transportation represent measures for cities, that are also transferrable and mobile to a certain extent. As an example, the 'Radlhauptstadt München' promotion campaign of Munich has to be mentioned, which caused an upswing of bicycle culture in the city, where public and politics seem to act in concert to enhance cycling in their city. Here problems in traffic and accompanying constraints in quality of life became more visible through development of alternative approaches for the enhancement of cycling.

## 6 SOLUTIONS FOR VIENNA – RECOMMENDED ACTIONS

After the above stated facts regarding ways to learn from best practices, the question after concrete practices and recommended actions for Vienna in the field of cycling is remaining.

In the following, recommended actions for enhanced bicycle use and a change of traffic system to bicycle friendly conditions will be purposed. Which structures will have to be changed or improved in the above defined fields of awareness raising, administration and infrastructure and how could this be done? Are there certain adoptable policies, which could represent an overall solution for Vienna?

Here, it seems to be conducive to maintain a certain order of argumentation. After components of awareness raising on political and public level, administrative and reorganiz-

ing factors have to be changed. This provides a basis for infrastructural changes and advances, which all in all can lead to the targeted outcome.

## 6.1 AWARENESS RAISING

As already mentioned, awareness raising is linked to bicycle culture and tackles political as well as public levels. Here, the main tools can be summarized in providing information and launching promotion campaign on the one hand and participation on the other hand. What could this mean for Vienna exactly?

In the field of promotion, several issues have to be considered. First, to make people aware of current existing problems in Viennese traffic system, caused by high levels of traffic. Beside increasing congestion in the streets, caused by too many automobiles and other modes of individual motorized transportation, the lack of (public) space, environmental issues, issues of air quality and health have to be pointed out more intensively.

The additional launch of campaigns which target traffic caused problems and the aspired increasing quality of life and sustainable city and traffic development through the change of traffic systems in relation to cycling could represent an adequate tool. Marketing campaigns are able to point out traffic related problems, as well as alternative solutions to solve these problems more clearly. Last but not least they are launched for advertizing these alternatives. Though Vienna already launched a campaign for direct promotion of cycling in the city, it seems that this secondary approach could be an adequate tool to intensify and confirm this by additional information to boost cycling through indirect measures. In general the significance of campaigning for Vienna is also pointed out by Von Sassen (2013, 4).

In the field of participation, two main issues can be seen. First, participation in form of activism has to be pointed out. This could be on a public or political level and tackles further vitalization of bicycle use in the city through further enhancement of city wide bicycle events. Good examples are already made by the annual 'Bike to Work' campaign, the current 'Radljahr 2013' campaign or the annual 'Bike Festival'. Second issue tackles public participation in form of political initiated forums and platforms, where citizens are invited to take part of planning processes more actively. This is also claimed by Hager (2013, transliteration 4f., 117-141), who mentions the lack of an adequate platform which provides the right conditions for active participation of citizens. Here, the process



which was applied during the planning phase of Mariahilferstraße can be seen as quite successful. These forms of policies have to be developed further, as the outcomes of planning seem to be a milestone for Viennese traffic planning in terms of cycling and pedestrian friendly and traffic calming planning.

## 6.2 ADMINISTRATION

According to administrative issues, a clear measure for further enhancement of bicycle use in the city of Vienna would be the transformation to a completely centralized administration of bicycle issues. This has to happen through all fields, beginning at bicycle planning issues, and ending at budgeting and promotion. As already mentioned, the current decentralized system shows impeding characteristics concerning the development of a bicycle friendly traffic systems, primarily because of political and financial reasons.

After having discussed policy transfer and the accompanying opportunities in the field of transportation, the development of an adapted version of a travel plan and a local travel plan group could be a smart way to centralize bicycle planning and all related issues again. In particular, this means implementation of a general supervising and superior platform or institution, where all cycling related issues are planned, discussed and implemented. This platform would be similar to the already existing 'Fachkommission Verkehr' and mobility agency (Mobilitätsagentur), but with some differences in composition and cognizance. The local travel plan group would consist of representatives of all bicycle related fields and stakeholders. For Vienna, the basic stakeholders might be the city's authorities, especially the responsible councilor, the magistrates (MA 18, MA 28, MA 46 & MA 33) and the mobility agency, NGO's (Radlobby IG Fahrrad), the Viennese chamber of commerce (WKO), the local public transportation company (Wiener Linien), as well additional private businesses that want to participate. Last but not least, the Viennese section of Agenda 21, as it focusses on sustainable transportation as well.

The outcome could be a platform that provides the chance for multidisciplinary dialog and discussion as well as a holistic planning approach throughout all interests. The overall target is the city -or region wide improvement of urban environment on a social, economical and ecological level by redeveloping the current traffic system to a bicycle friendly one in all respects.

Additional to a centralized but heterogenous work environment in bicycle issues, the topic of administration also tackles budgeting. In general and especially in comparison

with Copenhagen and Munich, the city of Vienna might have to think about uprating and prioritizing the general budget for bicycle related issues, if the target of enhancing bicycle use in the city is meant to be reached.

### 6.3 INFRASTRUCTURE

After measures in the fields of awareness raising and administration, the last field of recommended actions for the city of Vienna is infrastructure. Here, already stated facts and classical measures for enhancing bicycle traffic in an active way can be repeated.

The first and obviously most important and representative issue tackles advanced improvement of classical physical provision, which primarily means construction of bike paths and bike lanes. Here, the ultimate ambition has to be usability.

In order to the new opened possibilities by law, which were implemented with the recently amended highway code (StVO), the implementation of area wide traffic calming measures can be realized. Now, municipalities have the possibility for creating so called 'Begegnungszonen' (encounter zones) and 'Fahrradstrassen' (cycle streets), where bicycle and pedestrian traffic gets a prioritized or at least equal role compared with automobiles on the street. (Cp. Straßenverkehrsordnung 1960 (StVO), BGBl. 159/1960 idF BGBl. I 39/2013, §2 Abs. 2a and §67) Additional, the current amending of the highway code finally contains a first juristic foundation for a repeal of the obligation to use a bike lane or bike path But with limitation to repeal it, as long as safety aspects and the fluidness of the rest of traffic still can be ensured. (Cp. Straßenverkehrsordnung 1960 (StVO), BGBl. 159/1960 idF BGBl. I 39/2013, §68 Abs. 1a) Here, a general transfer to the repeal of this obligation should be targeted to be implemented by the city's authorities so that the already in 2003 stated aims of the 'Traffic Master Plan' regarding this issue and in connection a traffic development under the principle of mixed use can be fulfilled.

The most crucial issue in this context is the general claim after the acceptance of the bicycle as a vehicle, that needs to be integrated in traffic. This should be part of the official attitude of bicycle responsible authorities as well as in practical conversion of juristic frameworks.

Additional an area wide implementation of 30km/h speed limits should be targeted for Vienna, which also has to be valid for bigger roads.

Further, the enhanced development of bicycle parking facilities in private as well as in public space has to be considered. Here, clear juristic frameworks, in form of an amendment of the building code, have to be developed. This manages the construction of parking facilities by the local authorities, especially in districts where the majority of apartment buildings derives from the period of promoterism and physical structure complicates solutions. An additional solution might be further development of bike garages in empty business offices, implemented and organized by public-private partnerships in the districts.

As one adequate tool, which also could be adopted from Copenhagen is the enhanced experimental way to solve traffic related issues, where certain circumstances are tried out temporary and later on implemented, as this is happening in Munich already. (Cp. Von Sassen 2013, 4)

#### 6.4 CONCLUDING RECOMMENDATIONS

Over all the already stated facts and advices, at this point it has to be referred to Viennese policies regarding cycling, as they tackle all of the three above stated fields. Chapter 5 provides detailed information about facts and figures of launched programs, plans and resolutions and at this point evaluative statements as well as recommended actions will follow.

All in all it can be said, that already existing publications that include bicycle traffic basically formulate targets which can be seen as worthwhile. General ideas, proposed measures and policies that try to advocate for enhanced bicycle traffic seem to have great potential to target realistic enhancement of cycling and a reduction of individual motorized transportation in the city. Theoretically, all named policies state ambitious aims in the various fields of cycling, whereupon the 'Traffic Master Plan' is less detailed than the 'Climate Protection Program', which also proposes concrete ideas for realization. An advanced paper seems to be the recently published resolution, which contains some new approaches and focusses on bicycle traffic and bicycle culture only.

Though there are ambitious set targets and aims, the question after concrete outcomes and initiatives is remaining in particular, also because the 'Traffic Master Plan' was already launched ten years ago. Additional, when comparing with the cities Munich or Copenhagen, it can be seen that concrete plans for realizations are missing or at least skimped.

Here, a clear recommendation tackles the political attempt to implement all set targets with ambition and serious conviction. As the recently launched resolution for bicycle traffic in Vienna can be seen as approximate outline which does not contain clear approaches for concrete solutions, this policy could be supplemented by or integrated in a general guideline which focusses on clear statements of implementing the set targets. The outcome could be a Viennese Bicycle Traffic Master Plan with binding character, developed and implemented by a local travel plan group, so that a broad field of interests can be covered. To point back on policy transfer, the 'Grundsatzbeschluss Radverkehr' which is the Munich version of a Bicycle Traffic Master Plan, could be used for a Viennese process of transferring best practices in the field of cycling policies, also tackling general political attitude, as the resolution shows basic ideas, current status and traffic related problems as well as measures and concrete plans for implementation of solutions.

## 7 CONCLUSION

By considering different traffic planning concepts which are driven by different approaches and different needs of their times it can be seen that the enhanced use of individual motorized modes of transportation led more likely to constraints but to advantages in urban life. Now, the challenge is to step back from city concepts governed by automobiles and to create alternatives by considering grown attitudes and assumed traditions. Modern cities of the 21<sup>st</sup> century have to face population increase and accompanying issues. As growing populations also mean increasing traffic levels, cities' authorities are challenged to develop adequate solutions for traffic management in urban areas. In order to ecological standards regarding Co<sup>2</sup> emissions and the general aim of raising quality of life in the European context, cities like Vienna are obliged of planning for sustainable city development.

Here the bicycle is able to represent a crucial part in the field of sustainable and smart modes of transportation in urban areas. Though there will have to be mentioned natural limitations for boundless bicycle use at this point, which may have demographic as well as social reasons. This tackles the question after the basic ability of different groups of people in society to ride a bicycle for commuting which especially concerns old and infirm persons as well as diseased persons. Secondary, it will be important to consider

persons who may not be able to commute by bike every day, because of several other reasons. Here, cultural milieus, commuting distances from outer city regions to inner urban areas and the connected public transportation service as well as the factor of pluralistic societies, in which broad parts of society don't want to commute by bicycle, have to be mentioned.

Anyway, as enhanced bicycle traffic can bring advantages in several fields of urban life, also Vienna is experiencing an upswing of cycling as mode of transportation, which is driven by public as well as political forces. Regarding the enhanced cycle use during recent years and the concurrent political ambitions for developing a more cycling friendly urban environment, it can be seen that the Viennese current traffic system has to be re-developed from its basis. As basic condition for changes in traffic systems a serious political willingness and the focus on obvious advantages and benefits can be seen, before planners are challenged to consider bicycle related components in a qualitative way.

But the case of Vienna shows a split characteristic regarding bicycle traffic and a change of urban traffic system by planning policies. On the one hand advantages of enhanced bicycle use are theoretically well known in all fields of action. Political stakeholders are consistently willing to work towards sustainable traffic developments and to prioritize bicycle use and cycling ratio is appreciably increasing recently. On the other hand, policies which tackle development of a bicycle friendly urban environment have already been developed ten years ago and contained targets seem to be repeated in temporal context and copied from other European cities. Here, qualitative and well figured out policies and initiatives should be transferred on a high level. This can be reached by an adequate and inclusionary new body of planners and stakeholders. Great potential can be seen by learning from Munich which shows similar basic conditions in many aspects and Copenhagen, as example of best practice, where from basic ideologies and political attitudes can be evaluated positive regarding bicycle policies. Additionally a possible transfer of conducive initiatives and policies regarding bicycle traffic could be found in Vorarlberg. Here juristic, cultural and political circumstances are comparable and bicycle traffic related policies there can also be seen as example for best practice, as Vorarlberg represents Austria's federal state with one of the highest bicycle ratio in modal split. Ambitious targets are supported and initiated by political willingness and awareness of benefits and potentials of enhanced bicycle planning policies. (Cp. Lebensministerium 2011, 17)

Anyway the city of Vienna and its responsible stakeholders work on cycling issues more actively than ever before and political willingness for changes is rising, as well as awareness for traffic related problems and the need for more effectively change of the traffic system. Though, developments seem to step forward quite hesitant, which could also be caused by an inefficient situation in the structures of planning.

Now is the time to work on bicycle issues in the city of Vienna more effectively and the implementation of the set targets can be reached by considering the great potentials, which recently came up. By hosting the Velo City Conference in June 2013 and the creation of the year 2013 being the year of the bicycle ('Radljahr 2013' – campaign) and accompanying events, an upswing in cycling can be seen on a public and political level. As more citizens than ever tend to take the bicycle, these events can be seen as a motivator for all groups of society to change transportation manners and consider all accompanying advantages with enhanced bicycle use in an urban environment. Now the positive attitude and political support should be continued and further developments which lead to improvement of sustainable city development with focus on bicycle traffic will lead to an improvement of the overall situation in quality of life in the city.

## 8 BIBLIOGRAPHY

ADFC Forschungsdienst Fahrrad (Ed.)(1992): "Russisches Roulette" auf Radwegen – Radwege im Zentrum der Kritik. Vol.173. - Bremen.

Andersen, L. & A.Cooper (2011): Commuter cycling and health. In: Gronau, W. et. al. (Ed.): Transport and Health Issues, Vol.3, 9-20. - Mannheim (=Studies on Mobility and Transport Research)

ARGUS (Ed.)(2007): Fahrradständer: Test und Kaufberatung. - Wien

Bast (Bundesanstalt für Straßenwesen)(Ed.)(2009): Unfallrisiko, Konfliktpotenzial und Akzeptanz der Verkehrsregelungen von Fahrradfahrern. (= Berichte der Bundesanstalt für Straßenwesen. Verkehrstechnik), Vol. V184. - Bergisch Gladbach.

Bundesministerium für Land -und Forstwirtschaft, Umwelt und Wasserwirtschaft (Ed.) (2006): Masterplan Radfahren. Strategie für die Förderung des Radverkehrs in Österreich. - Wien.

Bundesministerium für Verkehr, Bau und Stadtentwicklung (Ed.)(2012): Nationaler Radverkehrsplan 2020. Radverkehr gemeinsam weiterentwickeln. - Berlin.

Bundesministerium für Verkehr, Innovation und Technologie (bmvit) (Ed.)(2012): Präventionsstrategien zum Fahrraddiebstahl. Fakten & Tipps zum Schutz Ihres Fahrrades. - Wien.

Bundesministerium für Wirtschaft, Familie und Jugend & Bundesministerium für Land -und Forstwirtschaft, Umwelt und Wasserwirtschaft (Ed.)(2010): Energiestrategie Österreich. - Wien.

City of Copenhagen, Technical and Environmental Administration (Ed.)(2008): A Metropolis For People. Visions and Goals for Urban Life in Copenhagen 2015. - Copenhagen.

City of Copenhagen, Traffic Department (Ed.)(2007): Eco-Metropolis. Our Vision for Copenhagen 2015. - Copenhagen.

City of Copenhagen, Traffic Department (Ed.)(2011a): Copenhagen City of Cyclists. Bicycle Account 2010. - Copenhagen.

City of Copenhagen, Traffic Department (Ed.)(2011b): Good, Better, Best. The City of Copenhagen's bicycle Strategy 2011-2025. - Copenhagen.

Cycling Embassy of Denmark (Ed.)(2012): Collection of Cycle Concepts 2012.

Deutsches Institut für Urbanistik (Ed.)(2011): Ökonomische Effekte des Radverkehrs. In: Forschung Radverkehr - Analysen A-3. - Berlin.

Eder, M. (2011): The health benefit of cycling - Health Economic Assessment Tool (HEAT) for cycling. In: Gronau W. et. al. (Ed.): Transport and Health Issues, Vol.3, 21-30. - Mannheim. (=Studies on Mobility and Transport Research)

Enoch, M., et.al. (2007): Local Travel Plan Groups. A practical guide to setting up and effective group. - London.

European Commission (Ed.)(1999): Cycling: the way ahead for towns and cities. - Luxembourg.

European Cyclists' Federation (Ed.)(ECF)(n.y.): Fact Sheet. Safety in Numbers. - Brussels.

Fraser, S. & K., Lock (2010): Cycling for transport and public health: a systematic review of the effect of the environment on cycling. In: European Journal of Public Health, Vol.21, No. 6, 738-743. - Oxford.

Gruen, V. (1973): Das Überleben der Städte. Wege aus der Umweltkrise: Zentren als Urbane Brennpunkte. - Wien.



Hager, A. (2013): Face to face Interview. Interviewed by the author. Transliteration. - Vienna, 6.2.2013.

Hamilton-Baillie, B. (2008): Shared Space: Reconciling People, Places and Traffic. In: Built Environment, Vol.34, No.2. - University of Manchester.

Holzapfel, H. (2012): Urbanismus und Verkehr. Bausteine für Architekten, Stadt- und Verkehrsplaner. - Wiesbaden.

Institut für Raumentwicklung und Kommunikation – Raumkom (2011): Evaluationsbericht der Fahrradmarketingkampagne "Radlhauptstadt München". - Trier.

Interface for Cycling Expertise (I-ce) (Ed.)(2000): The Economic Significance of Cycling: A study to illustrate the costs and benefits of cycling policy. VNG Uitgeverij, Den Haag.

Jones, M. (2001): Promoting cycling in the U.K. - Problems experiences by the practioners. - In: Whitelegg, J. (Ed.): World Transport Policy & Practice, Vol.7, No.3, 7-10. - Lancaster.

Kåstrup, M. (2013): E-Mail Interview. Vienna – Copenhagen, 7.1.2013.

Kuhn, A. (2009): Shared Space – Ein raum- und verkehrsplanerisches Konzept zur qualitativen Aufwertung öffentlicher Straßenräume und Plätze. - Diplomarbeit, Universität Wien, Wien.

Krag, T. (2002): Urban cycling in Denmark. - In: McClintock, H. (Ed.): Planning for Cycling. Principles, practice and solutions for urban planners, 223-236. – Cambridge.

Landeshauptstadt München (Ed.)(2009): Radverkehr in München. Grundsatzbeschluss zur Förderung des Radverkehrs in München. - München

Landeshauptstadt München, Referat für Stadtplanung und Bauordnung (Ed.)(2010): Radverkehr in München. - München.

Landeshauptstadt München, Referat für Stadtplanung und Bauordnung (Ed.)(2012a): Fahrradabstellplatzsatzung (FabS). - München.

Lebensministerium (Ed.)(2011): Masterplan Radfahren. Umsetzungserfolge und neue Schwerpunkte 2011-2015. - Wien.

Löschenbrand, M. (2012): From 5 to 10 percent: How can Vienna double its share of cycling until 2015? A holistic examination in terms of sustainable urban development. Master Thesis – FH Campus Vienna. - Vienna.

Marsden, G. & Stead, D. (2010): Policy transfer and learning in the field of transport: A review of concepts and evidence. In: Transport Policy Vol. 18, 492-500.

McCann, E. & K. Ward (2013): A multi-disciplinary approach to policy transfer research: geographies, assemblages, mobilities and mutations. In: Policy Studies Vol. 34, No.1, 2-18. - London.

McClintock, H. (2002): The mainstreaming of cycling policy. - In: McClintock, H. (Ed.): Planning for Cycling. Principles, practice and solutions for urban planners, 1-13. - Cambridge.

McClintock, H. (2002): Promoting cycling through 'soft' (non-infrastructure) measures. - In: McClintock, H. (Ed.): Planning for Cycling. Principles, practice and solutions for urban planners, 36-49. - Cambridge.

Radagentur Wien (Ed.)(2012): Fahrrad Report Wien 2012. - Wien.

Reichow, H.B. (1959): Die Autogerechte Stadt. Ein Weg aus dem Verkehrs-Chaos. - Ravensburg.

Schopf, J. & G. Emberger. (2013): Die Straße, die Fussgänger und die Stadtentwicklung. Straße als Lebensraum. In: *dérive* – Zeitschrift für Stadtforschung, Vol.50. - Wien.

SQR (Ed.)(2004): Valuing the benefits of cycling. A report to Cycling England. - England.

Stadt Wien (Ed.)(2006): Masterplan Verkehr Wien 2003. Kurzfassung. - Wien.

Stadt Wien (Ed.)(2009): Klimaschutzprogramm der Stadt Wien. Fortschreibung 2010-2020. - Wien.

Stadt Wien (Ed.)(2010): Gemeinsame Wege für Wien. Das rot-grüne Regierungsübereinkommen. - Wien.

Stadt Wien (Ed.)(2013): Grundsatzbeschluss Radfahren in Wien. Beschluss- (Resolutions-) Antrag. - Wien.

Stadt Wien, Magistratsabteilung für Stadtentwicklung und Stadtplanung, MA18 (2005): STEP 05. Stadtentwicklung Wien 2005. - Wien.

Stadt Wien, Magistratsabteilung für Stadtentwicklung und Stadtplanung, MA18 (2010): Radverkehrserhebung Wien, Entwicklungen, Merkmale und Potenziale. (=Werkstat-  
tberichte No.114) - Wien.

Stead, D. (2012): Best Practices and Policy Transfer in Spatial Planning. In: Planning Practice & Research Vol. 27, No. 1, 103-116. - London.

Travel Plan Plus (Ed.)(2009): Local Travel Plan Networks: A Literature Review.

Von Sassen, W. (2013): E-Mail Interview. Vienna – Munich, 20.3.2013.

## JURISTIC FRAMEWORKS

Austrian Highway Code:

Straßenverkehrsordnung 1960 (StVO), BGBl. 159/1960 idF BGBl. I 39/2013

## ONLINE RESOURCES

adfc – allgemeiner deutscher Fahrrad Club

<http://www.adfc.de/>) (access: 20.05.2013)

ADFC (n.y.): Von wegen Sicherheit! Mehr Unfälle durch Radwege. In: URL: <http://www.adfc-diepholz.de/radwege/unfallzahlen.php> (access: 10.04.2013)

Bähr, J. (2011): Einführung in die Urbanisierung. - Berlin. Online Handbuch des Berlin-Institut für Bevölkerung und Entwicklung. In: Url: [http://www.berlin-institut.org/fileadmin/user\\_upload/handbuch\\_texte/pdf\\_Baehr\\_Einfuehrung\\_Urbanisierung\\_2011.pdf](http://www.berlin-institut.org/fileadmin/user_upload/handbuch_texte/pdf_Baehr_Einfuehrung_Urbanisierung_2011.pdf) (access: 10.04.2013)

City of Copenhagen (Ed.)(2012a): Copenhagen's Bicycle Strategy and Policies. In: URL: <http://subsite.kk.dk/sitecore/content/Subsites/CityOfCopenhagen/SubsiteFrontpage/LivingInCopenhagen/CityAndTraffic/CityOfCyclists/CopenhagenCyclePolicy.aspx> (access: 10.05.2013)

City of Copenhagen (Ed.)(2012b): Green Cycle Routes. In: URL: <http://subsite.kk.dk/sitecore/content/Subsites/CityOfCopenhagen/SubsiteFrontpage/LivingInCopenhagen/CityAndTraffic/CityOfCyclists/CycleTracksAndCycleLanes/GreenCycleRoutes.aspx> (access: 10.05.2013)

Copenhagencyclechic (2007): Cycle Chic Origins.

In: URL: <http://www.copenhagencyclechic.com/2007/06/cycle-chic-origins.html> (access: 02.05.2013)

Critical Mass

<http://www.criticalmass.at/> (access: 02.05.2013)

Danish Cyclists' Federation

[www.cyklistforbundet.dk](http://www.cyklistforbundet.dk) (access: 20.05.2013)

DerStandard (2009): "Vernachlässigung des Radverkehrs in Wien hat lange Tradition". In: URL: <http://derstandard.at/1246543654674/Vernachlaessigung-des-Radverkehrs-in-Wien-hat-lange-Tradition> (access: 20.04.2013)

DerStandard (2010): Radfahren und Radparken am Wienfluss. In: URL: <http://derstandard.at/1285199764530/Rad-in-Wien-Radfahren-und-Parken-am-Wienfluss> (access: 16.04.2013)

European Cyclists' Federation (ECF)(2013a): Doubling cycling by 2020 set to become EU policy. In: URL: [http://www.ecf.com/press\\_release/doubling-cycling-by-2020-set-to-become-eu-policy/](http://www.ecf.com/press_release/doubling-cycling-by-2020-set-to-become-eu-policy/) (access: 02.05.2013)

European Cyclists' Federation (ECF)(2013b): Velo-city. In: URL: <http://www.ecf.com/projects/velo-city-2/> (access: 02.05.2013)

Green City

<http://www.greencity.de/ueber-uns/> (access: 20.05.2013)

Landeshauptstadt München, Referat für Stadtplanung und Bauordnung, (2012b): Radverkehr. In: URL: <http://www.muenchen.de/rathaus/Stadtverwaltung/Referat-fuer-Stadtplanung-und-Bauordnung/Verkehrsplanung/Radverkehr.html> (access: 20.05.2013)

Landrad Vorarlberg

<http://landrad.at/> (access: 22.04.2013)

Presseanzeiger (2010): UPS setzt weitere fünf Zustellfahräder ein. URL: <http://www.presseanzeiger.de/pm/UPS-SETZT-WEITERE-FUeNF-ZUSTELLFAHRRAEaDER-EIN-374636> (access: 01.03.2013)

Ruby L. (n.y.): How Denmark became a cycling Nation.

In: URL: <http://denmark.dk/en/green-living/bicycle-culture/how-denmark-become-a-cycling-nation/> (access: 20.04.2013)

Statistics Denmark (2013): Population 1. January by urban areas. In: URL: <http://www.statistikbanken.dk/BEF44> (access: 10.05.2013)

Statistisches Amt der Landeshauptstadt München (Ed.)(2013): Bevölkerung insgesamt. In: URL: <http://www.mstatistik-muenchen.de/datamon/datamon.jsp?thema=C01> (access: 21.05.2013)

Wiener Stadtwerke (2013): Modal Split. In: URL: <http://www.nachhaltigkeit.wiener-stadtwerke.at/daseinsvorsorge/oePNV/modal-split.html> (access: 21.05.2013)



## APPENDIX I – EXPERT INTERVIEWS AND TRANSLITERATION

### COMPENDIUM - COPENHAGEN

Expert interview via e-mail with Marie Kåstrup, project manager at the bicycle program, city of Copenhagen.

Interviewer: Alexandra Taxer

Date & Location: 7.1.2013, Vienna – Copenhagen

#### 1.) PLANNING

a.) Which organizations (governmental and non governmental) work on bicycle planning issues in Copenhagen? Do NGOs and governmental administrations work together and if yes, how does this collaboration work?

The City of Copenhagen meets with the local branch of the Danish Cyclist Federation several times a year to stay updated on general topics of interest and debate. Also local community councils (Lokaludvalg) are involved on a regular basis, as well as other relevant NGOs. For specific traffic projects, for instance a larger reconfiguration of a shopping street, traffic calming etc., the City is obliged to consult NGOs, citizens and local councils throughout the political process.

b.) How are the duties and responsibilities distributed between NGOs and Governmental Organizations? Which NGOs work closest with the city's administration?

Please see above.

c.) Which role do the inhabitants, the riders and commuters, play concerning planning for cycling? How far is participation taking place or do inhabitants have platforms to participate?

Every two years, we perform a cyclist survey where we ask app. 1000 cyclists about their satisfaction with Copenhagen's cycling conditions. The results are published in the bi-annual Bicycle Account together with a status on the City's political goals for cycling and various other relevant data.

Furthermore, citizens regularly contact us on their own behalf with suggestions, complaints and compliments. We also have a dedicated website called 'Give a hint' where cyclists can signal minor repairs such as holes in the bike track's surface, broken glass, missing ramps etc. There is a separate budget allocated to fixing these minor repairs that would otherwise easily be forgotten in the large scale budget negotiations. Both the input from the web page and from the citizens' direct mail inspires the overall planning as well as everyday decisions.

d.) To what extent is the European Union (and its transport policy) involved in the planning issues for cycling in Copenhagen?

To my knowledge, there isn't a direct impact. However, there might be some influence, e.g. in terms of criteria for air pollution (I think Copenhagen has a dispensation from the allowed level of air pollution).

#### 2.) (BUILT) INFRASTRUCTURE AND FACILITIES

a.) How does financing of bicycle infrastructure in Copenhagen work?

The Bicycle Programme where I work is a strategic unit that coordinates the City's overall bicycle infrastructure. Prior to the annual budget negotiations, we propose relevant bicycle projects, including infrastructure such as new bike tracks etc. When the politicians have decided which projects should be financed, we prepare the projects and then hand them over to our construction department. In some cases, the City of Copenhagen applies the Transport Ministry's national bicycle fund for co-financing of bicycle projects. Then the Bicycle Programme coordinates the application process.



cycle racks, storage

b.) Are there plans to intensify places for bike storage (in any accomplishment) Also in regard to bicycle theft? Is there any juristic regulation for an obliged provision of bike storage facilities?

Recently, there has been a shift towards a more flexible legislation, giving the municipalities right to move and handle abandoned bikes. Before, only the Police was allowed to this and given their sparse resources, abandoned bikes took up a lot of place everywhere.

Even though bike theft is presented as a big problem, it is relatively safe to park your bike in Copenhagen – most cyclists only have a backwheel lock and don't attach their bike to anything. Some numbers point towards 18.000 bikes being stolen per year in Copenhagen, and with an estimated number of 5-700.000 bikes in Copenhagen, this is "only" 3,6 %. In other words, 96,4 % of all bikes are not stolen throughout a year. But then again, practically no bicycle thefts are ever prosecuted by the police and especially expensive cargo bicycles, e-bikes and fancy sports bikes are vulnerable to theft, limiting the potential of these special bikes as a means of replacing the car.

Bicycle parking is indeed an important aspect to consider when seeking to improve conditions for cyclists and an area where we lack behind compared to other leading cycling cities such as Amsterdam. Therefore, 10 million DKK (app. 1,3 million €) were allocated to new bicycle parking spaces in 2013.

- in public space, on the part of the city (*I red about "flex parking"*)

*The flex parking scheme is part of an experiment that seeks to increase the capacity of street space. We noticed that in certain places, car parking spaces were empty during the day as the local car owners left the area to go to work; however the local school was in need of space for parked bicycles during daytime. This led to the experiment with flex parking, where a designated area is reserved for car parking in the evening and night, and for bicycle parking in the daytime.*

- on the part of private land holders

The municipal plan (Kommuneplanen) defines the following norms for bicycle parking facilities in new construction:

Commercial: 0,5 bicycle parking spaces per employee

Residential: 2,5 bicycle parking spaces per 100 m<sup>2</sup>.

- on the part of employers

There is no formal obligation apart from the above mentioned.

bike paths and lanes

c.) Is there an obligation by law to use a bike path in Denmark?

Yes, if there is a bicycle track or lane, you are obliged to use it.

d.) Is it the city's goal to build more bike paths or to gain more space in the streets for cyclists regarding to shortage of space, especially in the rush hours?

The City of Copenhagen has a 'Bicycle Track Priority Plan' that prioritizes where new bicycle tracks should be built. In terms of kilometers, app. 90 % of the prioritized routes have been built already, but certain crucial missing points still pose obstacles for safe, comfortable and fast connections for cyclists.

Rather than adding new bike tracks, there is a more important demand to widen existing bike tracks as more and more people take to cycling and the present capacity is quite challenged. (Cyclists' satisfaction is generally rather good with the exception of the width of the bicycle tracks and the amount of bicycle parking – see the Bicycle Account 2010).

One of the goals in Copenhagen's new Bicycle Strategy 2011-2025 is that the amount of the Plus Net (a network of the busiest streets for cyclists) with three lanes on the bicycle track should be 40 % by 2015, 60 % by 2020 and 80 % by 2025 (in 2010 it was 25 %).

Apart from widening the bike tracks and building new tracks, there are also other ways to tackle the challenge of capacity. It is not always possible to find space for a new track or for a widening of an existing track – streets are sometimes narrow or car parking spaces cannot be removed due to political wishes. One solution is to design traffic signals to give cyclists a green wave, hereby reducing the number of cyclists who have to stop for red light. When cyclists ride on a longer stretch without stopping, they tend to ‘even out’ and place themselves in a long line, optimizing capacity.

We have done a rather thorough investigation of capacity simulation that confirms our initial thesis of intersections being the biggest challenge in terms of both capacity and safety (both objective and subjective). We use the term ‘subjective capacity’ to describe the degree to which capacity can be physically working but not comfortable or perceived as safe for the cyclist.

As part of this project we have also experimented with ‘overtaking lanes’ on some of our widest bicycle tracks (3 meters and above), helping cyclists to keep to the right in spite of the large width of the cycle track and giving slower cyclists a visual space of safety and faster cyclists a ‘free space’ to overtake in.

**II.) What do you think about the idea to edit highway codes in a way that bicycles have clear advantages in contrast to motorized vehicles in urban areas? Do you think that the city of Copenhagen (commuters, politicians,...) is ready for measures like that?**

Yes and no – there is a constant debate about this, and it is not easy to predict the future. ☒

**IIa.) Could the city of Copenhagen think about to give away a road surface/ lanes for cars to cyclists?**

We are looking into the possibility of flexible usage of street space for various traffic forms (see for instance p. 15 in our Bicycle Strategy) but it is rather complicated to realize. Also, a large shopping street called Amagerbrogade is undergoing a traffic calming process right now, where car/bus lanes are being turned into wider bicycle tracks and pavements for pedestrians. On a smaller but also central shopping street, Istedgade, cycle tracks will not be installed as this would reduce the free flow in the street – instead car traffic is slowed by bumps and other measures in the style of the German Fahrradstrassen.

#### City bikes

**IIb.) Who is the target group to use the city bikes in Copenhagen?**

The new upcoming scheme for public bikes in the Copenhagen region is inspired by the Dutch OV-fiets with commuters who combine train and bike as the main target group and tourists and Copenhageners in need of an emergency bike as secondary target groups. The system will be handled by DSB S-trains (the regional trains by the national railways) in the same way as OV-fiets is run by the Dutch railways. There is a strong potential in combining trains with bikes and presently, Copenhageners transport their own bikes inside the regional trains to a large extent. It takes up a lot of space so it would be more efficient if there were public bikes available at the end of the journey. This way, the whole journey becomes more flexible – you can go further than by bike alone, but you can reach your final destination faster as you don’t need to walk the all way to/from the station.

**g.) Are there plans to plans to augment the city bike area to the outer districts of Copenhagen and to upgrade and modify the bikes?**

The new public bicycle scheme, which will completely replace the older one (that dates back to 1995), is planned to cover the Copenhagen capital region but is prepared to be rolled out on a national level if the financing can be found.

The new public bicycle scheme is considered a 3<sup>rd</sup> generation of public bikes, the original Copenhagen public bikes (that you have seen) being the 1<sup>st</sup> generation, Velib and the like the 2<sup>nd</sup> and this new scheme the 3<sup>rd</sup>, with integrated tablets/ipads, possibility of paying as part of your train ticket, reserving in advance, upscaling to e-bikes and cargo bikes etc.

### 3.) COMMUNITY

a.) How is cycling seated in the cities society? What means cycling to inhabitants? And how do they see cycling and politics concerning transportation in their city?

93 % of cyclists are satisfied with Copenhagen as a city for cyclists and cycling is so widespread that it is very integrated in the mainstream culture. It is not seen as a statement. 55 % say they cycle because it's faster, 33 % because it's more convenient, 32 % because it's healthy and only 9 % because it's environmentally friendly. It's about how to get from A to B in the fastest, most convenient way – not a political statement. Most car owners often cycle as well, so there is not a sharp distinction between cyclists and car owners.

b.) Can you explain the socio-economic status of commuter cyclists in Copenhagen? Are there any special attributes like education, age, place of living (distribution of cyclists per districts)?

As 86 % of all Copenhageners cycle at least once per week, cyclists are not a particular demographic group, although older citizens tend to cycle a little less, and there are slightly more women who cycle than men.

c.) Are there any groups in society who are underrepresented on the cycle tracks?

Please see above.

#### *Bicycle Culture*

d.) What is your opinion about bicycle culture in Copenhagen. How far is this existing yet and what about the further development?

As we seek to make even more people cycling, I think we will see more subcultures rising. Up to now, cycling has been extremely mainstream in Copenhagen but we are merging with the many upcoming cycling cities where cycling is more of a subculture with the fixie trend, bike polo, critical mass, mountain biking, triathlon, etc. E-bikes is a particularly interesting trend, growing a lot in NL and Germany and could fundamentally change the range we perceive as reachable by bike – in Denmark it is still seen as an old-person thing, unsexy and 'cheating' (cycling should be healthy and it's cheat to put on a motor – although driving a car is not considered cheating!?).

e.) Do you think that the current highway code of Denmark and the current cycling system is conducive for the further development of a bicycle culture in cities like Copenhagen?

There are still many areas where changes to the existing legislation could make way for improvements for the condition of cyclists, e.g. legal right-turn against red light.

#### *Education*

g.) Is there a cycling school or another program where people can learn how to cycle and esp. how to cycle in an urban environment, or is it planned to improve something like that? For Children, for adults..? Initiated from public administrations or NGOs?

Local NGOs have varying cycling classes for immigrant women and many schools have cycling exams in 6<sup>th</sup> grade (app. 12-13 years old). Our 'Safe Way to School' program collaborates with 90 % of the public schools in the Copenhagen Municipality, offering activities, proposing schools to make a traffic politic, installing traffic calming around the school etc. Most children learn to bike by being taught by their parents, though, and thus most Danes know how to ride a bike.

### 4.) FUTURE

a.) What are your personal goals and wishes for cycling in Copenhagen for the next years? Where do you see Copenhagen's transportation system and the bicycle culture in the future?

Please see our bicycle strategy 2025.

## COMPENDIUM - MUNICH

Expert interview via e-mail with Wigand von Sassen, Project Manager of 'Radlhauptstadt München' - campaign.

Interviewer: Alexandra Taxer

Date & Location: 17.03.2013, Vienna – Munich

Language: German

### 1.) PLANUNG

a.) Welche Organisationen (im öffentlichen Dienst, NGOs, ...) arbeiten am Thema Radverkehrsplanung in München? Wie gut funktioniert die Zusammenarbeit dieser?

Bei der LH München sind folgende Referate mit Radverkehrsthemen betraut:

- Baureferat
- Referat für Stadtplanung und Bauordnung
- Kreisverwaltungsreferat
- Referat für Gesundheit und Umwelt
- Referat für Arbeit und Wirtschaft

Weitere Organisationen und Vereine sind:

- ADFC München
- Green City
- BUND
- VCD
- MVV / MVG (Bike+ Ride, etc.)

Die Zusammenarbeit funktioniert gut. Das wichtigste Gremium für die stadtweite Abstimmung der beteiligten Organisationen ist der Arbeitskreis Radverkehr. Seine Arbeit wird in folgender Broschüre (S. 13) erwähnt, die insgesamt den besten Überblick über die Münchner Radverkehrsförderung gibt:

[http://www.radlhauptstadt.muenchen.de/fileadmin/Redaktion/PDF/Radl\\_Brosch\\_2010.pdf](http://www.radlhauptstadt.muenchen.de/fileadmin/Redaktion/PDF/Radl_Brosch_2010.pdf)

b.) Wie sind die Pflichten und Verantwortlichkeiten zwischen NGOs und Verwaltung aufgeteilt und welche Organisation arbeitet am engsten mit der Stadtverwaltung zusammen?

Eine Übersicht über die verschiedenen Zuständigkeiten findet sich in der Broschüre auf Seite 27. Die engste Zusammenarbeit mit der Stadt besteht zwischen dem ADFC München und dem Umweltverein Green City.

c.) Welche Rolle spielt die Bevölkerung, die letzten Endes die Radfahrer, also die Benutzer darstellen, in Planungsfragen für das Radfahren in der Stadt München? In wie weit findet Partizipation statt?

Die Frage kann ausführlich nur vom Planungsreferat beantwortet werden. Die Meinung der Bevölkerung spielt aber eine wichtige Rolle, es werden regelmäßig Befragungen von Radfahrern durchgeführt, um ein Meinungsbild einzuholen (vgl. Broschüre Seite 25). Auch über die Angebote und Veranstaltungen der Radlkampagne sowie über die Webseite ([www.radlhauptstadt.de](http://www.radlhauptstadt.de)) und den Facebook-Auftritt bekommt die Stadt München viele direkte Rückmeldungen von den Bürgerinnen und Bürgern.

d.) In welchem Ausmaß ist die Europäische Union und ihre Verkehrspolitik in Planungsfragen bezüglich des Radverkehrs der Stadt München involviert?

Die Frage kann nur vom Planungsreferat (Frau Zorn) beantwortet werden.

## 2.) (GEBaute) INFRASTRUKTUR UND AUSSTATTUNG

### a.) Wie funktioniert die Finanzierung von Radinfrastruktur in der Stadt München?

Im Jahr 2009 wurde der Grundsatzbeschluss Radverkehr verabschiedet und eine städtische Radverkehrspauschale in Höhe von 4,5 Mio. Euro pro Jahr eingerichtet (vgl. Seite 25). Diese wurde 2012 in Nahmobilitätspauschale umbenannt, so dass auch Projekte des Fußverkehrs aus diesem Topf finanziert werden können.

Für die Verwaltung der Mittel ist das Baureferat zuständig.

### Radabstellanlagen

### b.) Gibt es eine gesetzliche Verankerung, in der festgeschrieben ist, ob und wie viele Radabstellanlagen zu einem Gebäude errichtet werden müssen?

- im öffentlichen Raum, in Zusammenhang mit öffentlichen Gebäuden
- im privaten Bereich (seitens der Eigentümer von Wohnhäusern und dergleichen)
- im Bereich der Arbeitgeber

Zuständig für das Thema ist das Planungsreferat (Frau Zorn). Informationen zu konkreten Zahlen und Planungen finden sich im Grundsatzbeschluss Radverkehr:

<http://www.ris-muenchen.de/RII2/RII/DOK/SITZUNGSVORLAGE/1721051.pdf>

### Radwege und Gesetze

### c.) Gibt es eine juristisch in der StVO verankerte Radwegebenutzungspflicht in Bayern bzw. in Deutschland?

Ja, eine Radwegbenutzungspflicht gibt es. Alle benutzungspflichtigen Radwege in München werden derzeit überprüft und wenn möglich die Radwegbenutzungspflicht aufgehoben. Mehr Infos gibt es z.B. hier:

[http://www.radlhauptstadt.muenchen.de/fileadmin/Redaktion/PDF/110718\\_entspannt\\_mobil\\_web.pdf](http://www.radlhauptstadt.muenchen.de/fileadmin/Redaktion/PDF/110718_entspannt_mobil_web.pdf)

und hier:

<http://www.radlhauptstadt.muenchen.de/news-aus-der-radlwelt/details/article/neues-info-schild-zur-aufhebung-der-radwegbenutzungspflicht/>

### b.) Sind durch die derzeitige StVO und durch die angestrebte Novelle Ihrer Meinung nach die nötigen Rahmenbedingungen für eine fahrradfreundliche Mobilität in der Stadt gegeben?

(not answered, edit by the author)

### c.) Was ist Ihre Meinung zum Thema Kapazität und den tatsächlichen Anforderungen auf den Radwegen? Ist es das Ziel der Stadtverwaltung mehr Raum für Radfahrende zur Verfügung stellen?

Das Münchner Radverkehrsnetz ist über 1.200 km lang und wird kontinuierlich ausgebaut und verbessert. Aufgrund der starken Zunahme des Radverkehrs in den letzten 10 Jahren (über 70%) muss vor allem die Qualität (Breite der Radverkehrsanlagen) verbessert werden und noch einige wichtige Lückenschlüsse umgesetzt werden.

### d.) Welche Maßnahmen in infrastruktureller Hinsicht sollten Ihrer Meinung nach weiterführend getroffen werden, um die Fahrradmobilität in der Stadt München weiter voranzutreiben und mehr (Straßen)Raum für Radfahrende zu gewinnen? Könnte für die Stadt München eine noch großzügigere Öffnung der Fahrbahnen des MIV an geeigneten Stellen in Frage kommen?

Diese Frage kann nur politisch beantwortet werden. Herr Bürgermeister Monatzeder fordert dies meines Wissen nach jedoch klar ein, dass dem Radverkehr mehr Raum zur Verfügung gestellt werden muss, der vor allem dem Autoverkehr weggenommen werden soll. Zum Teil findet dies auch schon statt. Beispiele für Straßen wo neue, breitere Radverkehrsanlagen entstanden und dafür Autofahrspuren eingespart worden sind, finden sich z.B. hier:

<http://www.radlhauptstadt.muenchen.de/radlnetz/>

Die Position der Interessenvertretung (ADFC) ist hier dargestellt:  
<http://adfc-muenchen.de/info/programm-raum-radler.pdf>

#### City Bikes

f.) Gibt es konkrete Pläne ein öffentliches Bike-Sharing System seitens der Stadt München einzuführen?

Es gibt in München 2 Systeme:

- a) Das System Call a Bike von der Deutschen Bahn mit ca. 1000 Rädern in München (innerhalb des mittleren Rings)
- b) Das System nextbike mit ca. 400 Rädern

Konkrete Pläne seitens der LH München für ein System gibt es meines Wissens nach bisher nicht. Es sollen zunächst die Ergebnisse des bundesweiten Modellversuchs zu öffentlichen Fahrradverleihsystemen abgewartet und analysiert werden.

### 3.) GESELLSCHAFT

a.) Wie ist, Ihrer Meinung nach, Radfahren in der Münchner Gesellschaft verankert? Was bedeutet Radfahren für die Bevölkerung? Was bedeutet Radfahren für Akteure der Planung und Politik?

Das Radfahren ist in München sehr gut verankert wie die stetige Zunahme des Radverkehrs belegt. Mit etwa 18% Radverkehrsanteil hat München den höchsten Wert aller deutschen Städte mit mehr als 600.000 EW.

Radfahren ist dabei nicht nur eine Freizeitbeschäftigung oder ein Sportgerät, sondern wird von Seiten der Stadt unter anderem durch die große Radlkampagne (seit April 2010) als ideales städtisches Verkehrsmittel gefördert und beworben. Vgl.:

<http://www.nationaler-radverkehrsplan.de/praxisbeispiele/anzeige.phtml?id=2189>

b.) Wie setzen sich die sozio-ökonomischen Merkmale der (regelmäßigen) RadfahrerInnen in der Stadt München zusammen? Wer fährt mit dem Fahrrad? Gibt es Unterschiede / Regelmäßigkeiten / Auffälligkeiten bezüglich Wohnbezirk, Alter, Bildungsstand, ...?

Hierzu liegen mir leider keine verlässlichen Informationen vor.

c.) Welche Gruppen der Gesellschaft sind auffällig unterrepräsentiert auf den Radwegen? Gibt es Pläne und Maßnahmen, diese für den Radverkehr zu gewinnen? Wenn ja, welche?

Hierzu liegen mir leider keine verlässlichen Informationen vor.

#### Fahrradkultur

d.) Was ist Ihre Meinung zur Fahrradkultur in der Stadt München? Inwiefern ist diese bereits existent und wie sieht es mit der weiteren Entwicklung aus?

In München ist eine Fahrradkultur vorhanden und entwickelt sich in den letzten Jahren kontinuierlich weiter. Meilensteine waren meiner Meinung nach die Velo-city Konferenz in München im Jahr 2007 und der Start der Radlhauptstadt München – Kampagne im April 2010.

e.) Wie beurteilen Sie die Novelle der deutschen StVO in Hinblick auf die (weiter) Entwicklung einer Fahrradkultur?

Hierzu kann ich leider noch keine Auskunft geben, da wir erst noch auf das Inkrafttreten der neuen StVO warten müssen...

#### (Aus)Bildung

f.) Gibt es eine Einrichtung (Radfahrschule oder dergl.), wo die Münchener die Möglichkeit haben, das Radfahren zu lernen bzw. zu verbessern, um in urbanem Umfeld (selbst)sicher mit dem Rad unterwegs sein zu können?

Fahrradkurse (vor allem für Erwachsene und Migranten) werden u.a. vom ADFC München

und von Green City angeboten.

#### 4.) ZUKUNFTSAUSSICHTEN

a.) Wo sehen Sie persönlich Münchens Verkehrssystem und Fahrradkultur idealer Weise in der Zukunft? Was sind Ihre Wünsche und Anliegen für die Zukunft?

Weitere Steigerung des Radverkehrsanteils am Gesamtverkehr und Verbesserung der Verkehrssicherheit. Stichworte: Mehr gegenseitige Rücksichtnahme aller und eine entspanntere Mobilitätskultur. Vgl. Beschlusstext Seite 10-11:

<http://www.ris-muenchen.de/RII2/RII/DOK/SITZUNGSVORLAGE/2497948.pdf>

Münchens Radverkehr wird weiter zunehmen und sollte noch mehr Platz bekommen. Da München weiter wächst und dichter bewohnt sein wird, müssen wir immer stärker auf das platzsparendste und gleichzeitig kostengünstigste und gesündeste Verkehrsmittel setzen.

#### 5.) WIEN-KOPENHAGEN-MÜNCHEN

a.) Was kann Wien bzw. Österreich aus planerischer, sowie aus gesellschaftlicher und politischer Sicht von den Vergleichsstädten Kopenhagen und München lernen?

Politische Entscheidungen und Unterstützung sind enorm wichtig, wie die erfolgreiche Umsetzung des Grundsatzbeschluss Radverkehr und die Radlkampagne zeigen. Es braucht ein gutes Konzept mit klaren Zielen und einem konkreten Zeitplan. Wenn man den Radverkehr fördern will, muss man auch das entsprechende Geld in die Hand nehmen und in der Verwaltung mehr Personal einstellen.

l.) Gibt es Maßnahmen und Strategien in Bezug auf Radverkehrspolitik in München, wo Kopenhagen explizit als best practice Modell gedient hat? Wenn ja, welche?

Ein Beispiel wäre, in Zukunft häufiger Verkehrsversuche durchzuführen (Bsp. Umgestaltung am Rotkreuzplatz), also Maßnahmen provisorisch auf ihre Verträglichkeit hin zu testen, bevor man sie tatsächlich umbaut.

c.) Welche Maßnahmen aus Kopenhagen und München würden aus Ihrer Sicht auch in Wien für die Weiterentwicklung der Fahrradmobilität in Wien greifen?

Grundsatzbeschluss Radverkehr, Radlkampagne, AGFK Bayern, Fahrradstellplatzsatzung:  
[http://www.radlhauptstadt.muenchen.de/fileadmin/Redaktion/Presse/Pressemitteilungen/fabs\\_web.pdf](http://www.radlhauptstadt.muenchen.de/fileadmin/Redaktion/Presse/Pressemitteilungen/fabs_web.pdf)

## COMPENDIUM - VIENNA

Face to face expert interview with Alexander Hager, Head of Radlobby IG Fahrrad Vienna.

Interviewer: Alexandra Taxer

Date & Location: 06.02.2013, Vienna

Language: German

### 1.) PLANUNG

a.) Welche Organisationen (im öffentlichen Dienst, NGOs, ...) arbeiten am Thema Radverkehrsplanung in Wien? Wie gut funktioniert die Zusammenarbeit dieser?

*l.) Welche Aufgaben hat der Fahrradbeauftragte der Stadt Wien (Martin Blum) und als wie wichtig siehst du seine Rolle in Bezug auf die Radverkehrsplanung in Wien?*

b.) Wie sind die Pflichten und Verantwortlichkeiten zwischen NGOs und Verwaltung aufgeteilt und welche Organisation arbeitet am engsten mit der Stadtverwaltung zusammen?

c.) Welche Rolle spielt die Bevölkerung, die letzten Endes die Radfahrer, also die Benutzer darstellen, in Planungsfragen für das Radfahren in der Stadt Wien? In wie weit findet Partizipation statt?

d.) In welchem Ausmaß ist die Europäische Union und ihre Verkehrspolitik in Planungsfragen bezüglich des Radverkehrs der Stadt Wien involviert?

### 2.) (GEBaute) INFRASTRUKTUR UND AUSSTATTUNG

a.) Wie funktioniert die Finanzierung von Radinfrastruktur in der Stadt Wien?

Radabstellanlagen

b.) Gibt es eine gesetzliche Verankerung, in der festgeschrieben ist, ob und wie viele Radabstellanlagen zu einem Gebäude errichtet werden müssen?

- im öffentlichen Raum, in Zusammenhang mit öffentlichen Gebäuden
- im privaten Bereich (seitens der Eigentümer von Wohnhäusern und dergleichen)
- im Bereich der Arbeitgeber

Radwege und Gesetze

c.) Was ist deine Meinung zum Thema Kapazität und tatsächlichen Anforderungen auf den Radwegen? Könnte man sagen, die neu getroffenen baulichen Maßnahmen hinken den Anforderungen bereits hinterher? Wie sollte/könnte die Stadtverwaltung mehr Raum für Radfahrende zur Verfügung stellen?

d.) Sind durch die derzeitige StVO und durch die angestrebte Novelle deiner Meinung nach die nötigen Rahmenbedingungen für eine fahrradfreundliche Mobilität in der Stadt gegeben?

e.) Welche Maßnahmen in infrastruktureller Hinsicht sollten deiner Meinung nach weiterführend getroffen werden, um die Fahrradmobilität in der Stadt Wien weiter voranzutreiben und mehr (Straßen)Raum für Radfahrende zu gewinnen?

City Bikes

f.) Gibt es mittlerweile konkrete Pläne die City Bikes in Wien mit e-Bikes zu ergänzen? (rot-grünes Regierungsübereinkommen)



### 3.) GESELLSCHAFT

a.) Wie ist, deiner Meinung nach, Radfahren in der Wiener Gesellschaft verankert? Was bedeutet Radfahren für die Wiener Bevölkerung? Was bedeutet Radfahren für Akteure der Planung und Politik?

b.) Wie setzen sich die sozio-ökonomischen Merkmale der (regelmäßigen) RadfahrerInnen in der Stadt Wien zusammen? Wer fährt mit dem Fahrrad? Gibt es Unterschiede / Regelmäßigkeiten / Auffälligkeiten bezüglich Wohnbezirk, Alter, Bildungsstand, ...?

c.) Welche Gruppen der Gesellschaft sind auffällig unterrepräsentiert auf den Radwegen? Gibt es Pläne und Maßnahmen, diese für den Radverkehr zu gewinnen? Wenn ja, welche?

#### Fahrradkultur

d.) Was ist deine Meinung zur Fahrradkultur in der Stadt Wien? Inwiefern ist diese bereits existent und wie sieht es mit der weiteren Entwicklung aus?

e.) Wie beurteilst du die Novelle der österreichischen StVO in Hinblick auf die (weiter) Entwicklung einer Fahrradkultur?

*III.) Welche Maßnahmen im sozialen Bereich wären deiner Meinung nach sinnvoll, um die weitere Entwicklung einer Fahrradkultur in Wien zu fördern?*

### 4.) ZUKUNFTSAUSSICHTEN

*IV.) Ist es, deiner Meinung nach, realistisch, dass das ambitionierte Ziel der Erhöhung des Radverkehrsanteils auf 10% bis zum Jahr 2015 erreicht wird?*

a.) Wo siehst du persönlich Wiens Verkehrssystem und Fahrradkultur idealer Weise in der Zukunft? Was sind deine Wünsche und Anliegen für die Zukunft?

### 5.) WIEN-KOPENHAGEN-MÜNCHEN

a.) Was kann Wien bzw. Österreich aus planerischer, sowie aus gesellschaftlicher und politischer Sicht von den Vergleichsstädten Kopenhagen und München lernen? Welche Maßnahmen aus Kopenhagen und München würden aus deiner Sicht auch in Wien für die Weiterentwicklung der Fahrradmobilität in Wien greifen?

- 1 #00:00:11-3# Interviewer: Die erste Frage betrifft gleich dich als Person, nämlich wer du bist und  
2 was du machst und mit was du dich so in deinem Täglichen Schaffen beschäftigst.
- 3 #00:00:29-5# Befragter: Ja, Name Alexander Hager, genannt Alec, Obmann der Radlobby IG  
4 Fahrrad und Geschäftsführer der Radlobby Österreich - des Bundesverbandes.
- 5 #00:00:44-6# Interviewer: Geschäftsführer?
- 6 #00:00:47-8# Befragter: Ja, Geschäftsführer, also nicht der Vorstand, sondern der Geschäftsführer.  
7 Und Sprecher.
- 8 #00:01:01-5# Interviewer: Und was sind deine Aufgaben?
- 9 #00:01:03-0# Befragter: Ich bin Österreichs einziger hauptberuflicher Radinteressensvertreter.  
10 Gemeinsam mit einer Kollegin mache ich bei der IG Fahrrad die tägliche Arbeit und in Zukunft halt  
11 auch für die Radlobby Österreich dann mit neuen KollegInnen, hoffentlich. Ja, das heißt wir  
12 machen Interessensvertretungsarbeit bei politischen Entscheidungen, wir machen Kampagnen, die  
13 Radverkehr steigern oder Leute aufs Rad bringen sollen. Wir machen Beratung für unsere  
14 Mitglieder und Öffentlichkeitsarbeit. Wir versuchen auch auf Bundesebene, sei es  
15 Verkehrsministerium - Unterausschuss Radverkehr - , Lebensministerium uns einzubringen, was  
16 auch Gesetze und so weiter betrifft, Förderschienen. Das heißt, unser tägliches Brot ist es alles  
17 Mögliche zu unternehmen, damit der Radverkehr zunimmt. Ja, klassische  
18 Radinteressensvertretungsarbeit.
- 19 #00:02:00-6# Interviewer: Das heißt, ich komme gleich zu Planung. Das ist eher unübersichtlich  
20 hier in Wien, welche Magistratsabteilungen und NGOs, also wer genau was macht und wer welche  
21 Zuständigkeiten hat. Wie ist das, welche Organisationen und Abteilungen arbeiten am Thema  
22 Radverkehr oder an der Radverkehrsplanung?
- 23 #00:02:31-2# Befragter: Also zuerst zu den Organisationen, also es gibt in Wien lokal die IGF und  
24 die ARGUS, die Argus, die schon seit 30 Jahren Radinteressensvertretung macht und die IGF seit  
25 2004 und wir sind jetzt sehr stark zusammengewachsen, das heißt es gibt jetzt die  
26 Arbeitsgemeinschaft Radlobby Wien, wo wir beide gemeinsam einfach agieren, wir haben auch  
27 inhaltlich keine anderen Tätigkeitsbereiche. Also das heißt es ist eh eigentlich das Selbe, wir sind  
28 einfach verschiedene Generationen und jetzt wächst das ganze halt ein bisserl zusammen. Und  
29 eben auf der Bundesebene mit der Radlobby Österreich, wo beide Organisationen so zu sagen

30 Federführend sind. Sonst würde ich sagen auf der Eben der politischen Vertretungsarbeit gibt es  
31 die Grünen, die halt viel für Radverkehr machen, es gibt jetzt neu die Radfreunde, also die  
32 sozialdemokratischen Radfreunde, die roten Radfreunde, die haben sich grade als Verein  
33 gegründet, von Armin Hanschitz, der ist SP Bezirksrat im 20.Bezirk, also das ist so zu sagen ein  
34 neuer Player, ein parteipolitischer Radplayer, das ist sehr gerade sehr interessant. Es gibt noch  
35 den VCÖ, der ja eigentlich auf Bundesebene, aber sich auch in Wien ein bisserl stark macht, es  
36 gibt noch bei der Arbeiterkammer Vertreter, die etwas dafür tun, also im Bereich Kommunalpolitik.

37 #00:03:45-2# Interviewer: Aber wo würdest du jetzt sagen, ist die Radfahrplanung verankert?

38 #00:03:52-9# Befragter: Ein wichtiger Ort ist diese Fachkommission Verkehr, die sind in Wien  
39 gegründet, wo eben alle Verkehrsthemen besprochen werden, von den Stakeholdern des  
40 Magistrats bis hin zu den NGO's und auch ÖAMTC und ARBÖ sitzen dort und Arbeiterkammer,  
41 VCÖ und Wirtschaftskammer und all diese reden immer mit, also es ist ja ein bisserl ein Gwirx.  
42 Und auf der Magistratsseite gibt's es halt die drei Kernmagistrate, die MA18, MA46 und MA28, die  
43 im Radbereich beteiligt sind, also da ist bei der MA18 die übergeordnete Planung, bei der MA28  
44 die Detailplanung und bei der MA46 die Umsetzung und Radwegekoordination bzw. auch die  
45 Zuständigkeit für Radstände also die Radbügel. Und von deren Errichtung die MA28. Und da gibt  
46 es jetzt neu seit einem Jahr die Leitstelle Radverkehr, das ist die Fra Ursula Zappe, die geschaffen  
47 wurde, damit sie diese drei Magistrate koordiniert. Gleichzeitig Schnittstelle ist zur  
48 Verkehrsstadträtin und zu der Radagentur, also jetzt Mobilitätsagentur. Also das ist so zu sagen die  
49 Struktur.

50 #00:05:01-0# Interviewer: Und wie würdest du jetzt sagen funktioniert die Zusammenarbeit?

51 #00:05:05-1# Befragter: Zwischen wem jetzt genau?

52 #00:05:05-1# Interviewer: Naja, es sitzen ja bei diesen Gesprächen alle mehr oder weniger an  
53 einem Tisch. Wo ja ihr, also die IGF ja schon auch dabei seit.

54 #00:05:22-7# Befragter: Bei manchen sind wir dabei, wir sind nicht so besonders gut eingebunden,  
55 aber besser, als noch vor zwei Jahren. Also durch die Grünen, also das Vassilakou-Ressort, hat  
56 sich da schon Einiges verbessert. Was man nicht vergessen darf, sind die Bezirke.  
57 Bezirksvorstehungen können am allermeisten bestimmen also die können sehr viel ruinieren, also  
58 selbst wenn die MA28 was gutes plant, sagt der Bezirkskaiser dann also "nein", das passiert sehr  
59 oft. Wenn man's jetzt nicht strukturell, sondern institutionell sieht, sondern von den  
60 Einflussmöglichkeiten, da sind die zwei größten Verhindere von Radverkehrsinfrastruktur die

61 Bezirke und die Wiener Linien. Die Wiener Linien bangen um ihren Platz oder um ihre Vorrechte  
62 und sind prinzipiell leider radfeindlich oder halt sehr radskeptisch eingestellt und die Bezirke  
63 müssen halt einerseits Zahlen, einerseits, außer übergeordnete Radwegenetze, die muss halt  
64 dann das Stadtsäckel zahlen und auf der anderen Seite sind die halt sehr stark ihren Wählern,  
65 sprich Parkplätzen verbunden und fürchten sich vor jedem Parkplatz, der wegkommt, das ist sehr  
66 schwierig. Wobei da jetzt das Parkpickerl sehr viel hilft. Ja, also das jetzt in aller Kürze. Und von  
67 unserer Zusammenarbeit her, wir haben halt ein informelles Treffen mit den  
68 Radverkehrsmagistraten, regelmäßig, also alle ein bis zwei Monate, ins Leben gerufen von der  
69 Radagentur, die da den Vermittler oder die Schnittstelle spielt. Das ist auch eine der Job  
70 Description von der Mobilitätsagentur, das ist die Schnittstelle zu den Rad NGOs.

71 #00:06:53-7# Interviewer: Das ist meine nächste Frage, weil du jetzt so viele Institutionen  
72 aufgezählt hast, die sich mit dem Radverkehr beschäftigen. Und es gibt ja jetzt den  
73 Radverkehrsbeauftragten. Interessant für mich ist, wie siehst du die Rolle des  
74 Radverkehrsbeauftragten?

75 #00:08:17-9# Das ist jeden Falls eine wichtige Rolle und es ist zweischneidig. Also einerseits muss  
76 man sagen, der Radverkehrsbeauftragte ist kaum für Infrastruktur zuständig, das ist einfach nicht  
77 sein Thema, das muss man eindeutig bei den Magistraten sehen. Er ist in dem Fall eigentlich nur  
78 der Vermittler, das war auch die Job Description, auch Anwalt der Radfahrer gegenüber der Stadt  
79 Wien. Und bei den harten Infrastrukturdiskussionen ist das halt manchmal ein bisschen ein  
80 verlorener Posten, weil Magistrate, Wiener Linien, Bezirke, usw. andere Interessen vertreten. Für  
81 die Öffentlichkeitsarbeit ist er natürlich sehr wichtig und es startet ja jetzt die Radjahr Kampagne,  
82 die geht ja von der Radagentur aus, das ja sehr wichtig. Für uns ist es auch wichtig, dass  
83 allgemein einerseits durch das Verkehrsressort Vassilakou und die Radagentur, es jetzt Abläufe  
84 gibt, wo man sagt, man hat alle Wochen ein Meeting und man kann sich untereinander  
85 austauschen, also eine andere Gesprächskultur, die es zuvor unter Schicker gegeben hat. Also  
86 insofern: Radbeauftragter - wichtig. Braucht einfach noch mehr Ressourcen, braucht auch ein  
87 bisschen mehr Einfluss auf Infrastruktur, finde ich. Aber wir sind froh, dass es ihn gibt, es gibt  
88 natürlich auch ein bisschen eine Zwickmühle, da er Angestellter der Stadt Wien ist und der Stadt  
89 Wien verpflichtet ist. Wir würden uns manchmal deutlichere Stellungnahmen wünschen, aber  
90 manchmal ist es schon sehr gut auch!

91 #00:09:44-9# Interviewer: Ihr seit als NGOs informell bei diesen Treffen dabei. Das heißt so  
92 richtige Verantwortlichkeiten und Pflichten gibt's für diese ja nicht wirklich.

93 #00:10:12-8# Befragter: Naja, das einzige, was wirklich institutionalisiert ist, ist der Sitz bei der

104 Fachkommission Verkehr, den die AGUS inne hat. Die anderen Treffen sind eher informell. Die  
 105 Verantwortung für Verkehrsplanung kann ganz klar nicht bei uns liegen, die muss ja bei der Stadt  
 106 Wien und den Magistraten liegen. Es gäbe natürlich Modelle, wie zum Beispiel den Runden  
 107 Radtisch oder so ähnlich, in Kiel ist das glaube ich, wo einfach der Radbeauftragte und die NGOs,  
 108 also Fußgeher -und Radfahrervertreter zusammen kommen und wenn diese Runde bei einer  
 109 Verkehrsplanung nicht "OK" gibt, dann wird das nicht gemacht. Solche Institutionalisierten Sachen  
 110 gibt's bei uns leider nicht. Also das würden wir sehr begrüßen, wenn man sagt, jede  
 111 Verkehrsplanung muss beim Radverkehrsbeauftragten am Tisch landen und er muss sein OK  
 112 geben, sonst geht's wieder zurück. Eine ähnliche Funktion hätte bei uns die Fachkommission  
 113 Verkehr aber da sind ganz andere Interessen vertreten und die kommt erst zu einem sehr späten  
 114 Stadium dazu, also da sind die Sachen schon fertig geplant. Also insofern, wir haben inoffizielle  
 115 Möglichkeiten uns einzubringen, da sind wir auch recht froh, aber es fragt uns jetzt keiner, wenn  
 116 die Radlobby Wien jetzt nicht ja sagt zu einer Planung, dann machen wir es nicht, aber wir können  
 117 zumindest jetzt schon sagen, das und das ist echt nicht gut. Sie machen es halt trotzdem, siehe  
 118 Ring, das ist halt das Problem. Aber manchmal kann man aber durchaus noch was bewegen.

109 #00:11:33-9# Interviewer: Dann habe ich eine Frage zum Thema Partizipation der Bevölkerung.  
 110 Welche Rolle spielt diese? Weil das sind ja letzten Endes dann die Radfahrer, also die  
 111 Konsumenten vom Angebot. Es gibt ja schon teilweise Plattformen zur Partizipation, wo man  
 112 aufgerufen und eingeladen wird teilzunehmen und sich einzubringen, Lob oder Kritik zu üben,  
 113 siehe den Kummerkasten von euch, der IGF, oder die Wunschbox der Radagentur. Die Praxis  
 114 zeigt aber oft, ich kann jetzt nur aus meiner persönlichen Erfahrung mit dieser Wunschbox  
 115 sprechen, dass Anliegen an die falschen Stellen weitergeleitet werden und sie eigentlich letzten  
 116 Endes unter den Teppich gekehrt werden oder nur oberflächlich und schon gar nicht zielführend  
 117 behandelt werden. Da scheint es für mich ein bisschen so, als ob die Meinung der Bevölkerung in  
 118 Wirklichkeit eigentlich nicht viel Wert ist. Nach außen hin heißt's "mischt euch ein und redet mit",  
 119 aber in Wirklichkeit ist es ihnen eh egal.

120 #00:14:20-2# Befragter: Also prinzipiell, zum Thema Partizipation, es gibt kein Instrumentarium  
 121 dafür. Also ein Auftrag von der Radagentur war es ja, ein Beschwerdemanagement zu entwickeln,  
 122 das möglichst transparent ist. Es gibt da ein gutes Beispiel aus England dafür, da gibt es eine  
 123 Website wo man Mängel eintragen kann auf einer Karte und dann bekommt man eine Mitteilungen  
 124 in einem Ampelsystem von rot, grün, gelb vom Status "es wird bearbeitet", "bis dahin ist es fertig"  
 125 und "jetzt ist es erledigt", oder "nein, das können wir leider nicht lösen, weil ... ". Und sowas  
 126 Transparentes gibt es bis jetzt noch nicht, deshalb haben wir den Kummerkasten eingeführt, das  
 127 ist etwas Ähnliches, aber wir bleiben nicht transparent, weil da fehlen uns die Mittel. Aber es gibt  
 128 Partizipation in dem Sinne, punktuell, ja, bei der Mahü und beim Schwedenplatz hat's

129 Partizipationsgeschichten gegeben, aber sonst, relativ wenig. Es gibt immer wieder  
 130 Bürgerversammlungen wo dann recht geschimpft wird, aber für die Partizipation steht das  
 131 Instrumentarium nicht zur Verfügung und das muss es einfach geben. Und das zweite ist einfach  
 132 die Auffassung vom Magistrat, die zum Beispiel bei der Wunschbox diese Anfragen bekommen.  
 133 Die bekommen die Anfrage und müssen darauf amtlich antworten, das ist ganz klar, das ist ihre  
 134 Pflicht. Aber für die ist halt ein Thema erledigt, wenn sie geantwortet haben und nicht wenn sie das  
 135 Problem gelöst haben. Aber für uns ist damit das Problem nicht erledigt und wie man das am  
 136 Laufen hält, das ist das Schwierige. Da müsste eigentlich die Radagentur irgendwas schaffen. Die  
 137 Wunschbox ist halt auch nicht transparent, das kann man nicht mehr nach verfolgen, was mit einer  
 138 Anfrage passiert. Der Kummerkasten aber schon eher, weil wir und die Bezirkspolitiker da mit rein  
 139 schauen und das nach verfolgen können, das heißt, es ist sinnvoller an den Kummerkasten etwas  
 140 zu schreiben, als an die Wunschbox. Und es schreiben auch viel mehr Leute an den  
 141 Kummerkasten. Das beste wäre natürlich das ganze ist überhaupt viel transparenter. Die  
 142 Wunschbox ist halt einfach eine Kopie von unserem Kummerkasten aber ohne die Transparenz,  
 143 das finde ich recht schwach diese Lösung. Eine temporäre Pseudolösung bis ihnen etwas  
 144 Gescheiteres einfällt.

145 #00:16:46-3# Wie sieht es in Planungsfragen mit der EU aus? Die EU hat ja auch Verkehrspolitik,  
 146 zumindest in gewissem Maße. Spürt man davon etwas in Wien? Oder in den einzelnen Städten in  
 147 Bezug auf Radverkehr?

148 #00:17:00-0# Befragter: Naja die EU hat ja sehr wenig Einfluss auf die lokale Stadt -oder  
 149 Gemeindeebene. Ich mein, was jetzt zum Beispiel spürbar ist, oder sein könnte, ist das  
 150 Europäische Volksbegehren für 30km/h in Ortschaften. Wenn sich sowas durchsetzt. Aber das hat  
 151 Wien eigentlich eh schon inhaltlich. Sie Versuchen ja eh überall 30km/h zu machen, wo es geht.  
 152 Mit Abgasnormen und solchen Geschichten kann man eventuell, aber das kommt von der EU auf  
 153 die Bundesebene und von dort auf die Gemeindeebene und da bleibt nicht viel übrig.

154 #00:17:40-0# Interviewer: Ok, zum Thema Gebaute Infrastruktur und Ausstattung. Da interessiert  
 155 mich die Finanzierung. Weil Radinfrastruktur kostet ja. Wer muss da mit zahlen? Wie ist das  
 156 genau?

157 #00:18:03-2# Befragter: Na gut, da müsstest du eher die Stadtverwaltung fragen, da hab ich  
 158 keinen genauen Einblick. Wie soll man sagen. Es gibt ja ein eigenes Radinfrastrukturbudget, wo  
 159 die Höhe nicht ganz genau bekannt ist, im Bereich von fünf Millionen Euro circa im Jahr, grob  
 160 geschätzt. Es gibt auch ein normales Straßenverkehrsumsetzungsbudget, das in die Milliarden  
 161 geht, wo natürlich manchmal auch Radinfrastruktur mitgebaut wird. Bei den Abstellgeschichten ist

162 es so, es gibt entweder Leute, die das privat vor seinem Geschäft, vor seinem Haus, vor seiner  
 163 Wohnung wollen, die müssen das selbst bezahlen und den Rest müssten dann die Bezirke oder  
 164 die Stadt zahlen. Also wer sich's wünscht zahlt es. Wenn der Private es sich wünscht, dann zahlt's  
 165 der Private, wenn sich's der Bezirk wünscht, dann zahlt's der Bezirk und wenn die Stadträtin das  
 166 haben will, dann muss sie mit dem Bezirk diskutieren, ob's der Bezirk zahlt oder sie. Das war eine  
 167 gute Offensive unter Schicker, die Radbügeloffensive das heißt, die 2009 begonnen wurde, da  
 168 wurden 90% der Kosten von der Stadt Wien übernommen und nur 10% hat der Bezirk tragen  
 169 müssen, da sind immens viele Bügel gebaut worden. Da hat es auch Erhebungen gegeben, und  
 170 da waren auch wir eingebunden, seit dem gibt es eigentlich wirklich sehr sehr viel mehr Bügel als  
 171 vorher. Also das ist mal das, was ich zu den Kosten sagen kann, ich mein, aus der  
 172 Parkraumbewirtschaftung sollte ja Geld in die Radinfrastruktur fließen und so. Aber die genaue  
 173 Aufteilung hab ich da nicht im Kopf. Da muss man entweder im Verkehrsstadtratsbüro oder in der  
 174 Radagentur fragen.

175 #00:19:43-2# Interviewer: Bei den Radabstellanlagen, da gibt es ja Pläne und Maßnahmen die  
 176 Anzahl zu erhöhen. Ich habe da drei Bereiche definiert, also einerseits im öffentlichen Raum,  
 177 andererseits im privaten Bereich und weiters im Bereich von Arbeitgebern, wobei das ja  
 178 übergreifend ist. Im öffentlichen Bereich geht's um öffentliche Gebäude, Plätze und so weiter. Im  
 179 privaten Bereich ist es interessant, Seitens der Eigentümer von Wohnhäusern. Gibt es eine  
 180 gesetzliche Verankerung, in der festgeschrieben ist, ob und wie viele Radabstellanlagen zu einem  
 181 Gebäude errichtet werden müssen? In diesen drei Klassen?

182 #00:20:28-5# Befragter: Ja, da gibt's keine Verpflichtung, also keine verpflichtende  
 183 Stellplatzordnung für Fahrräder in der Bauordnung in Wien. Das ist eher eine Landesgeschichte,  
 184 das heißt, in Oberösterreich und Vorarlberg gibt's das meines Wissens, in Wien gibt es keine  
 185 Verpflichtung sondern nur die Möglichkeit, dass man sich die verpflichtend vorgeschriebenen  
 186 Autostellplätze teils durch Radstellplätze abtauscht, also dass man sagt, "ich baue fünf  
 187 Autoparkplätze weniger und mache stattdessen Radstellplätze". Dass Radstellplätze im  
 188 Gegensatz zu Autostellplätzen nicht vorgeschrieben sind, das ist ein riesiges Problem, da arbeiten  
 189 wir schon lange dran, dass sich das ändert. Die Zwischenlösung war jetzt mal, dass sie sagen, ja  
 190 ok, man kann einfach einen Autostellplatz durch so und so viele Radstellplätze ersetzen, bis zu  
 191 einen Prozentsatz von (---).

192 #00:21:14-2# Interviewer: Gibt's da auch irgendwelche Anreize dafür? Dass man sagt, die Leute  
 193 kriegen Zuschüsse und Förderung dafür, wenn sie das machen.

194 #00:21:18-2# Befragter: Ja, es gibt Förderung von Klimaaktiv, also auf Bundesebene für Wohnbau,

195 also das ist ein Zuckerl. Auf Stadtebene keine direkte, meines Wissens nach. Aber was es gibt, ist  
 196 eine Förderung für die Errichtung von Radabstellanlagen auf Privatgrund. Das hat mit der  
 197 Bauordnung jetzt nichts zu tun. Also es gibt keine Verpflichtung zum Bau von Radabstellanlagen,  
 198 aber wenn du jetzt als Privater in deinem Hinterhof eine Radgarage baust, bekommst du eine  
 199 Förderung von, da muss man nachschauen, zwei dreihundert Euro. Das gilt nur für Privatgrund.

200 #00:22:01-3# Interviewer: Und auf öffentlichen Flächen?

201 #00:22:03-4# Befragter: Ja, eben wie vorher geschildert. Also da muss man halt schauen wer will  
 202 das errichten. ÖBB, ist wieder ein eigenes Thema, weil das ist wieder kein öffentlicher Grund,  
 203 sonder Grund der ÖBB, dann ist dort immer die Frage, wer es zahlt. Das zahlen dann auch immer  
 204 andere, entweder die Stadt oder Sponsoren oder die ÖBB selber, oder wer auch immer, ja. Das  
 205 Hauptproblem in Wien ist ja der dicht bebaute Altbau Teil, wo man in Altbauten ja die Radeln  
 206 schwer unter bringen kann und draußen auf der Straße zu wenig Platz ist. Also da braucht's  
 207 dringend Lösungen im Sinne von Nachbarschaftsgaragen und solchen Sachen. Ganz wichtig sind  
 208 halt Großgaragen an ÖV Knotenpunkten. Da wird ja eine sehr gute und große geplant. Am  
 209 Hauptbahnhof, die soll 2015 in Betrieb gehen und am Westbahnhof kommt jetzt doch auch was  
 210 Gutes Überdachtes, zwar keine versperrte, aber eine überdachte Doppelstockparkanlage von bis  
 211 zu 400 Rädern, glaube ich. 200 oder 400. Ist noch nicht in Umsetzung, aber ist zugesagt. Und  
 212 solche Sachen sind ganz wichtig. Wien Mitte zum Beispiel. Ein Horror, wie man dort noch um  
 213 Radbügel kämpfen muss, obwohl es einer der zentralsten Verkehrsknotenpunkte in Wien wird.  
 214 Meidling, der meist angefahrene Bahnhof in Wien, mit dem meisten Personenverkehr, hat 12  
 215 Radbügel. Solche Dinge, also da gibt's einfach noch viel zu tun.

216 #00:23:31-7# Interviewer: Und wie ist es von Seiten der Arbeitgeber? Ich war zum Beispiel in New  
 217 York und dort gibt es Seitens der Stadt Anreize für Arbeitgeber, zwar nicht finanzieller Natur, aber  
 218 werbetechnischer Natur, auf der Marketingschiene. Da sagt die Stadt, wenn du als Arbeitgeber  
 219 bike friendly zu deinen Mitarbeitern bist und Radabstellanlagen und Duschen und so weiter zu  
 220 Verfügung stellst, dann bekommst du Pole Position Stellenanzeigen oder Werbung auf  
 221 Homepages oder in Magazinen und Zeitungen. Das sind solche Zuckerl eben für die Arbeitgeber.  
 222 Ist so etwas in Wien auch angedacht oder könntest du dir das vorstellen?

223 #00:24:13-6# Befragter: Ahh, interessant! Also angedacht jetzt nicht, aber es gibt, wie vorher  
 224 schon gesagt, die Klimaaktiv Mobilitätsberatung und dort können auch Arbeitgeber Förderungen  
 225 kriegen. Wenn sie einen Teil Fuhrparks umstellen oder wenn sie Teile ihres Parkplatzes für  
 226 Radabstellanlagen umbauen und dadurch eine CO2-Minimierung nachweisbar ist, dann kriegen  
 227 sie Förderungen, also das kommt vom Bund. Von der Stadt ist mir nichts bekannt. Also wie vorher



228 gesagt, die Radabstellanlagen auf Privatgrund das gilt auch für Arbeitgeber, selbstverständlich.  
229 Aber darüber hinaus ist mir nichts bekannt.

230 #00:24:44-3# Interviewer: Zu den Radwegen. Da haben wir vorher schon ein bisschen geredet. Da  
231 merkt man so ein bisschen, die Infrastruktur, die da ist, ist halt einfach zu klein für das  
232 Verkehrsaufkommen, was es mittlerweile gibt auf den Radwegen. Ich habe da so das Gefühl, es  
233 wird total viel gemacht und alle sagen, wir brauchen noch mehr, aber mir kommt vor, das was  
234 tatsächlich umgesetzt wird, hinkt der Entwicklung im Radverkehr voll hinterher. Siehe Ring  
235 Radweg. Da wird sehr viel Geld in die Hand genommen und im Endeffekt kommt etwas dabei  
236 heraus, was eigentlich nicht einmal fahrbar ist in der Praxis. Weil zu viele Radfahrer sind, für das  
237 was da jetzt neu gemacht worden ist. Da hinken die Maßnahmen den Anforderungen hinterher.

238 #00:25:45-7# Befragter: Da kann ich dir jetzt nur recht geben, das stimmt total. Man kann es auch  
239 differenzierter betrachten, das heißt es gibt alte Infrastruktur, die wird einfach zu eng.  
240 Paradebeispiele dafür sind die Margaretenstraße, Praterstraße - die zwei Hauptzubringer, da sind  
241 die Radwege einfach zu eng, man weiß aber nicht wohin, solange man nicht die geparkten Autos  
242 wegtut. Dann gibt's neu gebaute Infrastruktur, die an manchen Orten durchaus gut ist, auch breit  
243 genug ist. Die obere Donaustraße ist zum Beispiel zu nennen, oder halt in den Außenbezirken, wo  
244 viel Platz ist. Oder die Ausstellungsstraße, auch entlang vom neuen Hauptbahnhof, am Gürtel, da  
245 ist ein gutes Stück Radweg was durchaus gut funktioniert. Das Hauptproblem ist dicht verbaute  
246 Innenstadt, alte Radverkehrsinfrastruktur, wie umbauen, oder wie den Radverkehr integrieren, oder  
247 wie die Parkplätze entfernen. Am Ring speziell kommen so viele Interessen zusammen, vom ÖV,  
248 von den Parkplätzen, von den Richtlinien, die halt sehr, sehr defensiv ausgelegt werden. Ein gutes  
249 Beispiel ist die Ecke vor den Museen. Dort ist die Fahrbahn sechs bis acht Meter breit und man hat  
250 aber trotzdem bei dem Radverkehr dort auch Radwege auf die Fußgängerebene hingepinselt. Ganz  
251 bescheuert, weil dort ein U-Bahn Ausgang ist, wo es knapp hergeht. Von dem U-Bahn Ausgang die  
252 Leute natürlich die Radfahrüberfahrt zum drübergeh'n nutzen. Also es ist einfach ein  
253 hausgemachte Fußgängerkonfliktstelle und das deswegen, weil die MA46 sagt: " dort sind  
254 Reisebusse und Reisebusparkplätze und die Busse müssen sich gegenseitig überholen können  
255 und wenn ein Bus den anderen überholt, dann hat ein Radfahrer keinen Platz mehr". Nur für diese  
256 insgesamt fünfzig Minuten pro Tag, wo ein Reisebus den anderen überholt, können die Radfahrer,  
257 die dort sind einfach warten. Und wenn man Richtlinien einfach so streng auslegt oder so sehr  
258 haftungsbezogen oder angstbezogen ist, dann kann das nicht funktionieren. Da hat sich die Politik  
259 dann auch nicht durchgesetzt. Die Politik hätte sagen können: "egal, wir wünschen das jetzt so".  
260 Und deswegen haben wir dort jetzt eine ganz schlechte Teillösung. Ein Stück oberhalb am Ring,  
261 bei der Bellaria zum Beispiel, da hat man ein Fahrverbot für Autos gemacht, damit die Radfahrer  
262 da gut durch können. Das ist zum Beispiel eine super Lösung! Nur hat man halt fünfzehn Meter

263 davor die üblichen Probleme. Das ist nur ein Beispiel. Aber insofern kann man schon sagen, es  
 264 wird gut geplant, es gibt aber auch Rahmenbedingungen, die schwierig zu lösen sind. Und das  
 265 Hauptproblem ist immer das geparkte Auto. Das nimmt einfach immer zu viel Platz weg. Das ist ja  
 266 ein guter Punkt zum Vergleich mit Kopenhagen. Kopenhagen hat ja die offizielle Strategie drei  
 267 Prozent Parkplätze wegzunehmen pro Jahr. Die Anzahl der Parkplätze sollen pro Jahr um drei  
 268 Prozent verringert werden. Das wird einfach sukzessive gemacht, das heißt man nimmt dort ein  
 269 bisschen weg und da ein bisschen weg. Es gibt dort auch viele Diskussionen, aber es gibt einfach diese  
 270 Richtlinie. Wenn das bei uns die Verkehrsstadträtin offiziell so eine Richtlinie beschließen würde -  
 271 keine Chance. Erstens einmal auch, weil die Zuständigkeiten bei uns bezirksbezogen sind, das  
 272 heißt, es kann nur der Bezirk beschließen, aber in Kopenhagen kann es die Stadtverwaltung. Und  
 273 zweitens halt auch weil bei uns die Strategie so offiziell nicht machbar ist. Es braucht eine  
 274 Strategie zur Parkraumreduktion.

275 #00:29:25-4# Interviewer: Zur Radwegebenutzungspflicht. Die Gibt's ja de facto, die StVO wird ja  
 276 jetzt novelliert, wo ein Mitfließen von Radlern im normalen Verkehr unter bestimmten  
 277 Voraussetzungen möglich werden soll. Wie siehst du das?

278 #00:29:59-4# Befragter: Das ist in jeder Hinsicht sinnvoll. Weniger sinnvoll ist, dass die  
 279 Ausgestaltung in der StVO jetzt so ist, dass A keine generell Flexibilisierung ist, also man kann sich  
 280 nicht einfach entscheiden, sondern es muss vom Straßenerhalter das jeweilige Wegstück so zu  
 281 sagen einzeln verhandelt werden. Das ist ur zack und schwer zu kommunizieren, deswegen  
 282 braucht's auch ein anderes Schild, dieses eckige Schild halt für nicht benutzungspflichtig und das  
 283 runde für benutzungspflichtig. Dann ist das Problem halt, dass der ÖAMTC sich noch ein Sätzchen  
 284 in StVO wünscht durfte, bei diesem Gsatz'l über die Flexibilisierung, wo es heißt, dass der übrige  
 285 Verkehr nicht gefährdet oder behindert werden soll, was meiner Meinung nach eine  
 286 Ungleichbehandlung ist. Weil warum sollte der Kfz-Verkehr ungehindert rollen dürfen und  
 287 deswegen der Radverkehr die Fußgänger behindern muss. Aber mit dem Gsatz'l wird halt jetzt  
 288 überall argumentiert, das heißt, wenn das nicht drinnen wäre, dann hätten wir es viel leichter das  
 289 umzusetzen. Das dritte, was spannend ist, sind die RVS Richtlinien. Das sind die allgemeinen  
 290 Verkehrsrichtlinien, da wird im Bereich Fahrrad definiert: "was sind die Kriterien, wenn ein  
 291 Radweg zur Benutzungspflicht empfohlen wird". Und da ist es ganz wichtig, dass in der RVS  
 292 empfohlen wird, dass jeder gemischte Rad-Fußweg per se benutzungsfrei sein soll. Weil dann  
 293 kann sich's zumindest dort mal jeder Radfahrer überlegen ob er auf der Straße, also auf der  
 294 Fahrbahn fährt, und die Fußgänger haben weniger Probleme. Und generell denke ich, es ist  
 295 einfach eine Freigabe der persönlichen Entscheidung, das heißt man könnte das ja generell  
 296 einfach machen. Wenn jetzt jemand am Gürtel auf der Fahrbahn fahren will, dann soll er es  
 297 machen. Es liegt ja keine Verantwortung beim Straßenerhalter für das, was dem passiert, es ist ja

298 nur eine Wahlfreiheit. Es wird oft so wahrgenommen, als wäre dann, wenn man das freigibt, der  
299 Straßenerhalter an einem Unfall schuld, aber das ist ja nicht der Fall. Er verbannt ja die Radfahrer  
300 nicht vom Radweg, er stellt es ihnen nur frei. Insofern würde ich sagen, da muss man auch nicht  
301 allzu viel befürchten.

302 #00:32:09-6# Interviewer: Das heißt du siehst es grundsätzlich schon als gute Entwicklung, oder?

303 #00:32:12-7# Befragter: Ja, es ist nicht so, wie wir es uns gewünscht haben. Wir wollten eine  
304 generelle Flexibilisierung. Weil so muss man halt einzeln verhandeln und muss halt schauen,  
305 welches Schild da hängt, wenn man dort fährt.

306 #00:32:21-3# Interviewer: Das ist halt ein bisschen so, wie beim Radfahren gegen die Einbahn, wo  
307 man auch jede Einbahn prüfen muss.

308 #00:32:25-0# Befragter: Wo wir ja auch sagen, dass es gescheiter ist man öffnet die Einbahnen  
309 generell und nur dort wo es wirklich unvermeidlich ist, muss man die Einbahn für Radfahrer  
310 schließen. So wie in Brüssel, da sind alle Einbahnen generell geöffnet. Das wäre halt eine  
311 gescheitere Lösung. Und in vielen anderen Staaten existiert halt einfach keine  
312 Radwegebenutzungspflicht. Die greifen sich am Kopf und die Diskussion ändert sich sofort, weil  
313 man kann Radverkehrsinfrastruktur natürlich vollkommen anders beurteilen, wenn man nicht  
314 darauf fahren muss. Weil dann muss der Anbieter die Radverkehrsinfrastruktur eigentlich gut  
315 bauen, damit man drauf fahren will und andererseits wird man nicht dazu gezwungen schlechte  
316 Radverkehrsinfrastruktur zu nutzen und das ist eigentlich die Geschichte. Also die  
317 Radwegebenutzungspflicht dient ja nur dem flüssigem Motorverkehr. Es ist ein Fahrbahnverbot für  
318 Radfahrer, damit der Autoverkehr flüssig fahren kann. Und da sind die Zeichen der Zeit eindeutig  
319 abgelaufen.

320 #00:33:18-6# Interviewer: Aber da ist es dann interessant zu sehen, wenn dann zum Beispiel  
321 jemand, wie der ÖAMTC kommt.

322 #00:33:23-9# Befragter: Ja, der ÖAMTC ist einmal der Interessenvertreter des Autoverkehrs und  
323 das Mascherl, das er sich als Mobilitätsclub umhängen will, hat in diesem Moment keinen Wert  
324 mehr, wenn es um die Autofahrerinteressen geht. Wenn es leicht geht, dann kann man sich das  
325 Mascherl umhängen und sonst halt nicht.

326 #00:33:38-3# Interviewer: Ganz allgemein jetzt. Welche Maßnahmen in infrastruktureller Hinsicht  
327 würdest du für die Weiterentwicklung des Radverkehrs sinnvoll finden?

328 #00:33:51-6# Befragter: Es gibt zwei große Punkte. Man braucht - und da arbeitet Wien ja eh  
 329 schon dran - Langstreckenverbindungen, die für Radpendler interessant und gut ausgebaut sind,  
 330 also in Richtung Radhighway, wie es in London und Kopenhagen gibt. Wobei die Londoner ein  
 331 schlechtes Beispiel sind und die Kopenhagener ein gutes. Und eben solche Sachen, wie die  
 332 Margaretenstraße und die Praterstraße. Das muss anders gestaltet werden. Und die zweite ist  
 333 eben eine wirklich umfassende Verkehrsberuhigung und Radverkehrsintegration. Das muss man  
 334 sich einfach anschauen. Wo braucht man separierte Radinfrastruktur in großem Ausmaß und wo  
 335 muss ich den Autoverkehr eindämmen und kann den Radverkehr integrieren. Und ganz allgemein  
 336 braucht's halt die Verkehrswende, von der die Grünen ja sprechen und die tatsächlich Europaweit  
 337 da ist. Dafür braucht's halt eine Umsetzung. Eigentlich ist es ein Wahnsinn, dass eine Ringstraße  
 338 einen 50er aufweist, eigentlich müsste es eine autofreie Flanierstraße mit Radverkehr sein und  
 339 Erholungszone. Oder zumindest eine 30er Zone, verkehrsberuhigt mit Gegenverkehr, aber keine  
 340 50er-Autobahn, das ist nicht Zeitgemäß. Ich mein, die Mariahilferstraße, das ist ein guter Ansatz  
 341 und solche Dinge braucht Wien einfach mehr. Das wär's generell einmal. Ja, natürlich,  
 342 Abstellanlagenausbau, Radfreundlichkeit als prinzipielles Entscheidungskriterium bei Straßenbau.  
 343 Es braucht eine Radverkehrs-Checkliste und nur wenn sie das erfüllt, darf die Fahrbahn oder die  
 344 Straße so und so gestaltet werden. Punkt. Das müsste eigentlich sein.

345 #00:35:42-1# Interviewer: Nächste Frage - City Bikes! Im Rot-Grünen Regierungsübereinkommen  
 346 steht "eine Bestückung der City Bikes mit E-Bikes wird angedacht bzw. soll geprüft werden". Jetzt  
 347 ist das schon ein Zeiterl her, als das beschlossen wurde, weißt du, wie weit man dabei ist? Werden  
 348 diese Pläne mittlerweile konkretisiert?

349 #00:35:42-3# Befragter: Ich glaube, der wichtigere Passus ist, dass man sie generell ausbauen  
 350 will, also was ja ständig betrieben wird ist der Ausbau des City Bike Netzes und die Verdichtung.  
 351 Das müsste noch schneller und dichter werden. Die Dichte ist das Erfolgsgeheimnis der City Bikes,  
 352 wenn man sich Paris oder Sevilla anschaut, dann weiß man, warum die so gut funktionieren. Und  
 353 die Elektrifizierung ist meines Wissens nach nicht konkret behandelt im Moment. Es gibt natürlich  
 354 E-City Bike Systeme, die jetzt angeboten werden von verschiedenen Herstellern aber ich denk mir,  
 355 ein City Bike System muss so simpel wie möglich sein und so günstig wie möglich und so  
 356 nutzerfreundlich wie möglich und ein E-Bike hat einfach viele mehr Fehlerquellen und viel mehr  
 357 Kosten und viel mehr Bedarf, also Steckdosen und so weiter, und das hat keinen Sinn für ein City  
 358 Bike, was im Schnitt zehn Minuten benutzt wird und dann wieder abgestellt wird, also insofern,  
 359 auch für hügelige Strecken ist es für die kurzen Strecken, wie ein City Bike genutzt wird, nicht  
 360 sinnvoll. Also manengt sich selbst ein, wenn man sagt, es muss jetzt alles elektrifiziert werden,  
 361 also was das alles kostet, ist immens! Und die Wartungskosten und alles Mögliche. Also es gibt

362 eigentlich keinen Grund, der dafür spricht. Außer dem Mascherl, worüber sich primär  
363 Energielieferanten und Politiker freuen, aber der Nutzer genau gar nichts davon hat.

364 #00:38:00-9# Interviewer: Aber wäre es nicht gerade für Wien, was ja schon eine eher hügelige  
365 Stadt ist, ein Weg, mehr Leute aufs Rad zu bringen. Weil das ist schon immer wieder ein  
366 Argument, das ich höre, dass die Leute von den äußeren Bezirken nicht mit dem Radl in die Stadt  
367 fahren, weil sie oft Steigungen haben.

368 #00:38:00-9# Befragter: Natürlich wäre das eine Lösung, aber es birgt gerade auch bei  
369 Privatbesitz halt andere Probleme dann in sich, weil wo stellst du ein E-Bike ab? Das willst du  
370 sicher und verschlossen abstellen, das ist zu teuer, dass du es den ganzen Tag vor dem Büro auf  
371 der Straße abstellst. Und ein E-Bike ist schwer, das heißt das trägst du auch nicht gern regelmäßig  
372 aus einem Keller im Altbau über ein Stockwerk rauf, wenn du keinen ebenerdigen Abstellplatz hast,  
373 und all solche Dinge. Und all das kannst du mit einem günstigen Stadtradr um wenig Geld, second  
374 hand, ohne Probleme machen. Das heißt das E-Bike ist für manche Situationen eine Lösung, für  
375 manche Altersgruppen und Einsatzgebiete, aber es bedarf ja eines Umfeldes und oft sind solche  
376 Dinge einfach Ausreden. Eine Steigung ist eine willkommene Ausrede, wenn man nach einer  
377 Ausrede sucht und wenn man fahren mag, dann fährt man. Ab einem gewissen Alter oder einer  
378 gewissen Steigung ist natürlich ein E-Bike viel lässiger, das sehe ich genau so. Aber es braucht  
379 halt dann auch E-Bike friendly environment und das kostet auch mehr.

380 #00:38:59-5# Interviewer: In meinem dritten Punkt, da geht's um die Community, also um die  
381 Gesellschaft. In meiner Arbeit geht's ja nicht nur um planerische Aspekte, sondern auch um die  
382 Gesellschaft und um kulturelle Unterschiede. Wie ist deiner Meinung nach das Radfahren in der  
383 Wiener Gesellschaft verankert?

384 #00:39:41-3# Befragter: Also zum einen, zur Community, es sind ja mehrere Communities. Es gibt  
385 ja unterschiedliche Gruppen, die jetzt von der Rennradcommunity, bis zur Bike Park -oder BOKU  
386 Community, die haben halt teilweise Überschneidungen oder auch nicht. Und das was man als  
387 Community betrachtet, das ist eine gewisse Überidentifikation mit dem Fahrrad. Das ist nicht  
388 massentauglich logischerweise. Was die allgemeine Gesellschaft anbelangt, ist es schon so, dass  
389 Radverkehr extrem zunimmt, weil 10% ist die offizielle Zuwachsrate im letzten Jahr, 40% am Ring,  
390 glaube ich. Also es ist schon deutlich mehr Akzeptanz da, es fahren schon deutlich mehr Leute mit  
391 dem Rad und das ist ein Prozess, der stark zugenommen hat, also insofern hat sich da schon viel  
392 getan. Aber für den Dänen ist es normal in der Früh zum Rad zu greifen und wohin zu fahren, egal,  
393 wer er ist. Und für den Wiener ist es doch halt immer noch was Besonderes. Also die Person, die  
394 Rad fährt ist noch nicht Mainstream. Aber viel mehr Leute aus dem Mainstream fahren mittlerweile

395 Fahrrad, das ist schon die Entwicklung, die man sieht. Also Stellenwert: besser, akzeptierter, aber  
396 für viele ist man halt immer noch - und das ist auch ein mediales Problem - halt der  
397 Verkehrsrowdie oder der Bremser, der einfach das Hindernis im Verkehr darstellt und das ist  
398 glaube ich das Hauptproblem.

399 #00:41:06-2# Interviewer: Und wie schaut's da in der Planung und in der Politik aus? In Hinblick  
400 auf die Akteure, die in Radangelegenheiten arbeiten? Die sind auch Teil der Gesellschaft.

401 #00:41:15-8# Befragter: Es hat letztes Jahr diese Verkehrssensibilisierungskampagne gegeben,  
402 dieses "T'schuldige, passt schon". Heuer gibt's die Radjahr Kampagne, mit der man das Radimage  
403 stärken will, also ich glaub, da passiert jetzt schon Einiges. Politik kann entweder  
404 Öffentlichkeitsarbeit betreiben oder Rahmenbedingungen ändern. Die Rahmenbedingungen sind  
405 halt eher Kampfzone, wenn es um Parkplatz entfernen, Radweg bauen, Autobeschränkungen  
406 einführen oder Parkplatz Bewirtschaftung geht. Das passiert eh auch alles. Auf der anderen Seite  
407 muss man auch das Image positiv geben und das passiert jetzt auch. Ob es wirksam ist, muss  
408 man sich dann anschauen.

409 #00:41:59-9# Interviewer: Interessant ist für mich auch, wer mit dem Fahrrad fährt. Kannst du zu  
410 klassischen sozio-ökonomischen Merkmalen der Radfahrer in der Stadt etwas sagen?

411 #00:42:24-3# Befragter: Also es gibt Studien und Befragungen, auch von der Radagentur, zum  
412 Beispiel dieser Radreport zeigt ein paar Zahlen dazu. Aber generell gibt's Zunahmen in gewissen  
413 Bereichen. Frauen zum Beispiel, nimmt stärker zu. Die Aufteilung Männer - Frauen liegt so bei 65 -  
414 35. Also viel mehr Männer, das ist immer ein Zeichen dafür, dass Radverkehr noch nicht sehr  
415 etabliert ist und noch sehr Gefahrenorientiert wahrgenommen wird. Männer setzen sich  
416 erziehungsmäßig lieber Gefahren aus als Frauen, deshalb fahren mehr Männer Radl. Man weiß  
417 auch, dass die Radfahrenden eher gebildeten und wohlhabenden Schichten angehören, aber nicht  
418 der Top-Wohlhabenden.

419 #00:43:17-1# Interviewer: Welche Unterschiede gibt's auf Bezirksebene?

420 #00:43:19-3# Befragter: Ja ganz starke! Das kann ich aber nur ganz grob sagen. Man weiß, dass  
421 im Zweiten, im Siebten, im Achten oder auch im Ersten sehr viel Radverkehr ist. Und in den  
422 Außenbezirken, Zehn, Elf, sich überhaupt nicht viel tut, dafür aber in Floridsdorf und Donaustadt  
423 hingegen wieder sehr viel Radverkehr ist. Genau hab ich das aber auch nicht im Kopf.

424 #00:43:52-2# Interviewer: Das heißt, es gibt auch Gruppen in der Wiener Bevölkerung, die deutlich

425 unterrepräsentiert sind, wenn's um den Radverkehr geht?

426 #00:43:55-0# Befragter: Ja, ganz klar! Migranten und Migrantinnen, Kinder und Jugendliche  
427 sowieso, Frauen deutlich weniger, Arbeitende Bevölkerung deutlich weniger, als Akademiker.

428 #00:44:15-7# Migranten wären in Wien ja schon eine Gruppe, bei der es großes Potenzial geben  
429 würde, oder?

430 #00:44:27-4# Befragter: Das ist soziokulturell schwierigst. Also das heißt, es gibt Leute, die sind  
431 leichter aufs Radl zu bringen als andere. Aufstiegs -und dadurch auch statussymbolorientierte  
432 Migranten und Gemeinschaften sind ganz schwer aufs Rad zu bringen. Du kannst ihnen nicht zu  
433 verstehen geben, dass es super ist, ein Fahrrad zu haben und der BMW nicht. Da gibt es ganz klar  
434 das Ziel, etwas her zu machen. Auf der anderen Seite ist es gerade für migrantische Frauen ein  
435 enormer Zugewinn an Selbstbewusstsein und Mobilität, die sie restriktiveren Kulturen oft nicht  
436 haben. Da finde ich es auch ganz wichtig, aber das hebt den Radverkehrsanteil nicht signifikant,  
437 außer für die eine Person die Selbstwahrnehmung. Also wir machen ja auch so  
438 ImmigrantInnenkurse, das finde ich sehr sinnvoll, aber großflächig Radverkehrsanteil steigern tut  
439 man eher mit Gruppen, die schon knapp davor sind. Also eher in der gebildeten Schicht, also eher,  
440 die leichter umsteigen.

441 #00:45:33-0# Interviewer: Wie schauts mit den Schulen aus?

442 #00:45:33-0# Befragter: Ja, das ist das selbe Problem! Schulen haben einen extrem niedrigen  
443 Radverkehrsanteil. Warum? Weil alle Freifahrten haben, was gut ist! Das Gefahrenmoment scheint  
444 größer und Eltern müssen es erlauben. Und Kids hängen einfach gerne gemeinsam ab und bis alle  
445 in der Klasse ein Rad haben, da fährt man lieber mit der Bim gemeinsam wohin. Das ist auch eine  
446 Gruppe, die man nicht leicht dazu bewegen kann. Also wenn man sich Gruppen suchen will, wo es  
447 leicht geht, dann muss man Migranten und Jugendliche gleich mal vergessen. Das ist leider so.  
448 Auf der anderen Seite sind es natürlich die größten Gruppen, die nicht viel mit dem Rad fahren.

449 #00:46:12-8# Interviewer: Vorher haben wir schon über Fahrradkultur geredet und dass  
450 Kopenhagen zum Beispiel eine ganz andere Kultur bezüglich Fahrrad hat, als sie bei uns ist, was  
451 ja auch kulturhistorische Gründe hat. Wie würdest du Wien und die Fahrradkultur beschreiben, ist  
452 so etwas überhaupt schon existent?

453 #00:46:53-5# Befragter: Wie eh schon vorher bei den Communities, es gibt verschiedene Kulturen,  
454 aber Fahrrad als Hauptkultur, so zu sagen wie in Kopenhagen ist einfach noch nicht existent, aber

455 es wird schon mehr. Also Verkehrskultur als solche ist bei uns eine ÖV -und autolastige und noch  
456 keine Fahrradkultur, aber es wird mehr. Von den gewissen Soziotopen ist das schon Mainstream.

457 #00:47:18-2# Interviewer: Und wie beurteilst du die angesprochenen Novelle der StVO in Hinblick  
458 auf die wiener Fahrradkultur?

459 #00:47:35-1# Befragter: In Bezug auf Fahrradkultur kann ich nicht sagen, ob die Novelle förderlich  
460 ist, aber in Bezug auf Fahrradverkehr ist sie das auf jeden Fall. Weil Fahrradstraßen und  
461 Begegnungszonen eingeführt werden können und so weiter ist es auf jeden Fall eine sinnvolle  
462 Sache.

463 #00:47:47-0# Interviewer: Wie würdest du Fahrradkultur definieren?

464 #00:47:47-5# Befragter: Das ist eine gute Frage. Ich glaube man muss die Frage anders stellen.  
465 Ist das Fahrrad in der jeweiligen Verkehrs -oder Mobilitätskultur ein zentraler Faktor einer Stadt.  
466 Oder wie stark ist es ein zentraler Faktor.

467 #00:48:13-7# Interviewer: Es gibt quasi eine Kultur des Fahrradfahrens oder der Akzeptanz zum  
468 Fahrradfahren oder eben nicht. Für mich gehört zu einer Fahrradkultur der Autofahrer schon auch  
469 dazu. Weil der mit seinem Verhalten und seiner Meinung schon auch sehr zu einer gewissen  
470 Stimmung oder eines Umfeldes beiträgt.

471 #00:48:44-8# Befragter: Aber dann würde ich fragen: "Wie fahrradfreundlich ist die Verkehrskultur".  
472 Weil die Frage "Wie ist die Fahrradkultur" ist wieder etwas anderes, weil da geht es ja nur um die  
473 Leute, die tatsächlich mit dem Rad fahren und wie sind die drauf. Wenn man aber fragt: "Wie  
474 fahrradfreundlich ist die Verkehrskultur in Wien, dann kann man das ganz anders beantworten, als  
475 in anderen Städten, weil es recht spezifisch ist. Und da kann man sagen, dass die Verkehrskultur  
476 in Wien noch nicht fahrradfreundlich genug ist. Aber es hat sich verbessert, man wird aber noch  
477 immer als Radfahrer von der Straße geschrien und weggehupt oder als Störfaktor wahrgenommen  
478 also insofern ist die fahrradfreundlichkeit von Wien auf einer Skala von eins bis zehn vermutlich  
479 bei fünf. Bei null ist wahrscheinlich irgendeine griechische Industriestadt und bei zehn würde  
480 vielleicht Groningen liegen. Dort wo das dominante Verkehrsmittel das Fahrrad ist, mit fast 50%.  
481 Dort kannst du sagen, die fahrradfreundliche Kultur ist am Soll angekommen.

482 #00:49:45-2# Interviewer: Würde es Maßnahmen geben, wo du sagst, die setzt man im sozialen  
483 Bereich, um diese fahrradfreundlichkeit zu erhöhen?



484 #00:50:01-5# Befragter: Spannende Frage.

485 #00:50:01-5# Interviewer: Weil es muss nicht jeder, der Fahrradfreundlich ist, selbst mit dem  
486 Fahrrad fahren. Es kann auch nicht jeder mit dem Fahrrad fahren.

487 #00:50:07-7# Befragter: Naja prinzipiell kann fast jeder (Lachen). Aber du hast schon recht! Diese  
488 'T'schuldige, passt scho' - Kampagne war ein Anfang, wo man geschaut hat wie man aus gewissen  
489 Konflikten, die rund um Radfahrer entstehen den Zorn rausnehmen, das hat überhaupt nicht  
490 funktioniert. Da gab's ja diese eine Darstellung, wo ein älterer Herr sich am Gehsteig ein bisschen  
491 erschreckt, weil eine junge Dame mit dem Radl vor ihm steht und offensichtlich gerade am  
492 Gehsteig gefahren ist. Aber ganz eine freundliche Szene. Da gab's immense Proteste, dass man  
493 so etwas öffentlich plakatiert. Das Interessante dabei war, dass es bei dieser Szene, wo die  
494 Radfahrerin freundlich am Gehsteig steht gab's halt Statements, das sei Aufforderung zum  
495 Gesetzesbruch, wie kann das eine Stadt plakatieren. Gleichzeitig gab es eine Szene, die plakatiert  
496 wurde, wo ein Radfahrer über eine geöffnete Autotür drüber fällt, also praktisch gerade eine  
497 zehntel Sekunde davor ist, sich zu verletzen, also eine deutlich schlimmere Situation, als die  
498 lächelnde Dame, die dem Opa zuwinkt. Da gab es keine Proteste, außer eben von Hardcore-  
499 Radlern. Und das sagt etwas aus über die Kultur. Man hat halt versucht über diese Kampagne das  
500 ein bisschen zu sensibilisieren aber das funktioniert überhaupt nicht.

501 #00:51:37-0# Interviewer: Es gibt ja auch die Idee, dass jeder Autofahrer zu seinen theoretischen  
502 und praktischen Autofahrstunden auch Radfahrstunden haben muss.

503 #00:51:48-6# Befragter: Ja, das ist eine super Idee, das haben wir bereits seit fünf Jahren in  
504 unserem Forderungskatalog, dass man auch verpflichtende Radfahrstunden in der  
505 Führerscheinausbildung drinnen hat. Also dieses Standpunkt - Gesichtspunkt wechseln. Und mal  
506 vom Lenkrad zum Fahrradlenker zu gehen, das fordern wir schon lange. Aber es ist schwierig  
507 einzuführen. Wäre meiner Meinung auch notwendig für ÖV-Lenker. Dass der Bim Fahrer auch  
508 weiß, wie schwierig das ist für den Radfahrer jetzt ad hoc vom Straßenbahngleis zu verschwinden  
509 und er bitte nicht so bimmeln soll. Das ist jedenfalls eine gute Idee, aber es ist eben eine  
510 Zwangsmaßnahme.

511 #00:52:27-2# Interviewer: Aber gut, es gibt ja auch Nachtfahrten in der Führerscheinausbildung,  
512 die sind genau so verpflichtend.

513 #00:52:30-7# Befragter: Es ist auch sehr Sinnvoll Zwangsmaßnahmen zu setzen, um Kultur zu  
514 ändern, das muss man machen. Anreize und Zwänge, beides muss man haben. Aber ich denk mir,

515 dass da wirklich gezieltere Öffentlichkeitsarbeit geben muss. Das muss man sich jetzt anschauen,  
 516 was im Radjahr passiert. Vielleicht gibt's da wieder ein bisschen mehr. Und ich denke mir, der  
 517 Ersteffekt wenn man Radfahrer mehr auf die Straße lässt, also die Radwegflexibilisierung einführt,  
 518 wird es zuerst sehr viele Reibereien geben, aber das ist auch ein Weg, wie man die Leute  
 519 aneinander gewöhnt. Und man muss da durch. Das muss man halt mit einem 30er verbinden und  
 520 dann muss das funktionieren, das wird am Anfang zu klimatischen Verschlimmerung beitragen,  
 521 das heißt zuerst gibt es einmal mehr Konflikte und dann gewohnt man sich einmal dran. Und hinter  
 522 den Geschichten muss man halt dann politisch auch dahinter stehen. Letzten Endes sind dann  
 523 Wahlen und dann entscheidet sich das Volk und dann wird man sehen wofür es sich entscheidet,  
 524 davor haben halt auch viele Politiker Angst.

525 #00:53:51-6# Interviewer: 2015 - zehn Prozent? Glaubst du, das ist realistisch?

526 #00:54:05-2# Befragter: Naja. Ja, eigentlich schon. Aber wir brauchen halt eine Zuwachsrate in  
 527 einem der nächsten Jahre, am besten 2013, da müsste der Radverkehr innerhalb von einem Jahr  
 528 50% Zuwachs haben, sonst funktioniert das rechnerisch nicht. Wir liegen jetzt bei 6,7%, das ist der  
 529 Modal Share Ende 2012. Ende 2011 war er bei 6%, das heißt wir haben 0.7 Prozentpunkte mehr  
 530 und in zweieinhalb Jahren ist 2015 vorbei. Das heißt, wenn man es sich ausrechnet - heuer hatten  
 531 wir 10% Zuwachs - muss es in einem Jahr 50% Zuwachs geben, sonst kann es nicht funktionieren.  
 532 Und das ist (---) eigentlich unmöglich (Lachen). Aber ich würde schon sagen, dass es durchaus  
 533 realistisch ist, weil es ist keine immense Zahl. Es muss halt wirklich boomen, das ist der Punkt.  
 534 Aber es sind 10% für eine Stadt wie Wien nicht unrealistisch. Ob man es jetzt schafft innerhalb der  
 535 drei Jahre, das ist die Frage. Man muss halt wirklich kräftig zu Zuckerbrot und Peitsche greifen.

536 #00:55:22-9# Interviewer: Jetzt abgesehen von dieser Frist 2015, was glaubst du, ist überhaupt  
 537 realistisch für Wien?

538 #00:55:29-0# Befragter: Naja, wo liegt München? Bei 17% glaube ich. Und das müsste für Wien  
 539 auf jeden Fall auch gehen. Also 15% bis 2025 ist auf jeden Fall realistisch aber wäre mir persönlich  
 540 viel zu wenig. Also wenn man gescheite Maßnahmen ergreift, kann man das durchaus auch bis  
 541 2020 schaffen. Also wenn die Entwicklung jetzt so weitergeht, sagen wir mit 15-20 Prozent pro  
 542 Jahr, ich kann's jetzt grad nicht ausrechnen ob sich das ausgeht, aber es könnte doch sein.

543 #00:56:13-5# Interviewer: Und was wäre dein Ideal, deine Idealvorstellung von einem  
 544 Verkehrssystem in Wien?

545 #00:56:24-7# Befragter: Also schon utopisch gedacht, wenn der Idealzustand eine Utopie ist?

546 #00:56:44-9# Interviewer: Aber es soll schon umsetzbar sein, eine Utopie ist ja eigentlich etwas,  
547 was nicht erreichbar ist.

548 #00:56:52-2# Befragter: Naja, sagen wir einmal so. Was haben wir jetzt für einen Modal Share?  
549 Wir haben jetzt circa 32% ÖV, oder? Mehr sogar? 33? 28% MIV, 33% ÖV, 6% Radl, 25%  
550 Fußverkehr? Circa so? Das geht sich jetzt nicht auf hundert aus, glaube ich, aber egal. Und ein  
551 Ziel wäre zum Beispiel, dass der Radverkehr und der MIV den gleichen Modal-Share haben, also  
552 das heißt wenn jetzt beide auf 15-17 Prozent kommen, dann muss der ÖV drastisch zunehmen,  
553 dann muss auch der Fußverkehr ein bisschen abnehmen, also das muss man schon wissen, da kann  
554 sich der Fußverkehr ruhig ein bisschen aufs Radl verlagern, das ist ja kein Problem, auch  
555 gesundheitlich ein Vorteil. Aber man muss halt schauen, dass ganz viele Verkehrsflächen in Wien  
556 Autofrei werden, also wirklich autofrei. Angefangen vom Ring, die komplette Innenstadt, solche  
557 Dinge, die einfach zur Lebensqualität viel beitragen. Also die Mariahilferstraße muss de facto  
558 autofrei werden, also nicht nur das mittlere Stück, sondern halt wirklich. Es braucht  
559 zusammenhängende autofreie Straßenzüge, es braucht ganz viele Begegnungszonen, wo der  
560 Autoverkehr so zu sagen nur Gast ist. Es Braucht Umwege. Das Auto muss immer einen Umweg  
561 fahren müssen und nur der Fuß -und Rad -und ÖV-Verkehr darf direkte Wege haben. Man muss  
562 das Verkehrssystem autofeindlich gestalten. Das muss man vielleicht nicht so sagen, aber es gibt  
563 so viele Städte, die ein Beispiel dafür sein können. Kleine Städte vor allem halt. Wie man die Wege  
564 für Autos so lang macht, dass die Bevölkerung automatisch zum Fahrrad greift. Und das muss  
565 man in Wien Flächenmäßig einsetzen. Das muss man so machen, wie im Stuwerviertel, wo halt  
566 aus anderen Gründen ganze Durchfahrten gesperrt sind, da kommst du mit dem Radl von einem  
567 Punkt zum anderen und mit dem Auto musst du Umwege fahren. In Holland gibt es eine kleine  
568 Modellstadt, die heißt Houten. Das Stuwerviertel ist ein kleines Houten, nur halt nicht aus  
569 Verkehrspolitischen Gründen, sondern wegen dem Straßenstrich. Also das hat solche Effekte, das  
570 sind die ruhigsten Straßen. Oder das(---) im Achtzehnten (---) das Cottageviertel! Das sind ganz  
571 viele enge Straßen, wo es aber super funktioniert, weil dort der Verkehr sehr runtergebest wird und  
572 da recht viel Entschleunigung stattfindet. Da sind die Einwohner recht zufrieden damit, da soll man  
573 eigentlich nichts ändern, da brauchts keinen zusätzlichen Radweg, es funktioniert einfach so wie  
574 es ist.

575 #00:59:57-1# Interviewer: Wir kommen schon zum letzten Punkt. Es geht darum, was Wien von  
576 Kopenhagen und München lernen kann. Welche Maßnahmen wären aus deiner Sicht sinnvoll? Wo  
577 würdest du sagen: "das macht München, das braucht Wien auch". Ob es jetzt in Wien funktioniert,  
578 oder nicht, ist wieder etwas anderes, oder wo du sagst: "das wäre doch eine Idee für Wien". Oder  
579 was macht Kopenhagen.

580 #01:00:36-7# Befragter: Ich mein, das kann ich nur ganz kurz und eher mehr geraten sagen. Also  
 581 München, da denk ich mir, da sind zwei Sachen wichtig. Das eine ist diese Fahrradkampagne -  
 582 Radlhauptstadt München. Und die passiert ja in Wien jetzt gerade, da sind wir mit dem Radljahr  
 583 2013 ja schon am Weg. Das zweite ist, dass die Verwaltungsstruktur in München viel  
 584 zielgerichteter in der Umsetzung und Behandlung von Radverkehrsagenden ist. Also ich finde das  
 585 ganz wichtig, dass man in Wien die Verwaltung umbaut. Eine Leitstelle Radverkehr ist ein guter  
 586 erster Schritt, aber die Radverkehrsagenden müssen wieder zur Stadt zurück und nicht bei den  
 587 Bezirken bleiben. Und auch die Planungsabläufe müssen einfach noch viel mehr zentralisiert  
 588 werden. Auch eine Leitstelle Radparken zum Beispiel, so wie es auch eine Zuständigkeit für  
 589 Autoparken gibt, da wäre Zürich zum Beispiel ein Vorbild. Das weiß ich jetzt nicht ob München  
 590 oder Kopenhagen das hat. Und bei Kopenhagen denke ich mir, ja, Kopenhagen ist halt wirklich von  
 591 der Infrastruktur her ein Meilenstein, da muss man sich schon anschauen, wo man in Wien  
 592 Infrastruktur so machen kann, wie die Dänen. Wo bekommen wir so einen vier Meter breiten  
 593 Radweg hin? Wie gestaltet man Straßenzüge so, dass sie radfreundlich werden. Und natürlich  
 594 auch die Strategie ganz klar zu fahren. Also auch die Parkplatzreduktion zum Beispiel. Weil drei  
 595 Prozent Parkplätze pro Jahr streichen, das ist schon viel! Aber ich denke mir auch, dass die Dänen  
 596 halt auch sehr rational und logisch vorgehen. Und die sagen: "Ok, um dieses Ziel zu erreichen  
 597 brauchst diese Schritte. Und die Schritte gehen wir jetzt und die kommunizieren wir offen". Ich  
 598 würde aber nicht sagen, dass sie keine Kompromisse machen, aber es ist eine gute Strategie und  
 599 zeigt Zielstrebigkeit. Und wirklich gute Infrastrukturlösungen. Also es wurden ja in Kopenhagen ja  
 600 einige Gefährdungspunkte wirklich entschärft. Wo man gesagt hat: "Ok, das schauen wir uns jetzt  
 601 wirklich genau an, was muss ich da für den Radverkehr machen? Egal was es kostet". Eben die  
 602 Brücke bei der Nørrebrøgade, da gibt's so ein Eck, das ganz vorbildlich umgestaltet wurde und  
 603 nicht um sonst ist das dann das meist befahrenste Eck von Kopenhagen mit 36000 Radfahrer pro  
 604 Tag. Ja, das fällt mir jetzt spontan ein.

605 #01:03:42-5# Interviewer: Ja, das war's schon! Ich sag' danke für das Interview! (Lachen)

606 #01:03:49-9# Befragter: Super! (Lachen)

# Curriculum Vitae

Alexandra Theresa Taxer, Bakk.

## Angaben zur Person

Geboren am 18.10.1986 und aufgewachsen in Salzburg

Familienstand: ledig

Staatsangehörigkeit: Österreich

Wohnort: Lacknergasse 58 / 12+13, in 1170 Wien

Tel.: 0650/5006585

E-Mail: alex.taxer@gmail.com

## Ausbildung:

1993-1997	Volksschule Lehen II in Salzburg
1997-2005	Christin Doppler Gymnasium (BG2) Salzburg
Juni 2005	Matura am Christian Doppler Gymnasium Salzburg
Oktober 2005 bis Februar 2009	Bakkalaureatstudium Geographie an der Naturwissenschaftlichen Fakultät der Paris Lodron Universität Salzburg
März 2009 bis Oktober 2013	Masterstudiums Geographie am Institut für Geographie und Regionalforschung der Universität Wien. Studienschwerpunkte: Bevölkerungs- und Stadtforschung, Regionalschwerpunkt Europa

## Praktika:

Sommer 2003	Buchhandlung Morawa in Salzburg als Feriapraktikantin
Sommer 2004 und 2005	Christian Teufl Kollektionen Salzburg als Assistentin für diverse Tätigkeiten
Sommer 2006	Firma ICRA in Salzburg als Assistentin für diverse Tätigkeiten
Sommer 2008 und 2009	Kletterpark Waldbad Anif bei Salzburg als Kletterpark-Guide
September 2010 bis Jänner 2011	Magistratsabteilung 18 der Stadt Wien für Stadtentwicklung und Stadtplanung unter der Leitung von Herrn DI Thomas Madreiter als Volontärin im Referat F für Stadtforschung und Raumanalysen
WS 2009 - SS 2011	Tätigkeit als Studierendenvertreterin am Institut für Geographie und Regionalforschung der Universität Wien auf informeller Basis
SS 2011 und SS 2013	Tutorin für das PS „Contemporary Problems in Urban Development“ am Institut für Geographie und Regionalforschung
Seit Juni 2011	Servicemitarbeiterin im Bereich Gastronomie

Wien, September 2013

## Erklärung

Hiermit versichere ich,

- dass die ich die vorliegende Masterarbeit selbstständig verfasst, andere als die angegebenen Quellen und Hilfsmittel nicht benutzt und mich auch sonst keiner unerlaubter Hilfe bedient habe,
- dass ich dieses Masterarbeitsthema bisher weder im In- noch im Ausland in irgendeiner Form als Prüfungsarbeit vorgelegt habe
- und dass diese Arbeit mit der vom Begutachter beurteilten Arbeit vollständig übereinstimmt.

Wien, im September 2013