ΕΘΝΙΚΟ ΜΕΤΣΟΒΙΟ ΠΟΛΥΤΕΧΝΕΙΟ
Τομέας Τοπογραφίας- Τομέας Περιφερειακής Ανάπτυξης και Περιφερειακού Σχεδιασμού

TECHNICAL UNIVERSITY OF VIENNA
Institute of Geoinformation and Cartography

Διπλωματική Εργασία: Το Αυστριακό Πολεοδομικό και Χωροταξικό Σύστημα και οι Αλλαγές για την Εναρμόνισή του με την Βιώσιμη Ανάπτυξη. Η περίπτωση της Βιέννης

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Ακαδημαϊκό Έτος : 2011-2012

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Acknowledgements

Firstly I would like to thank my professor and supervisor Chryssy Potsiou, whose guidance and help throughout the duration of my thesis has been very valuable. I would also like to thank her for giving me the opportunity of carrying out my thesis within the Erasmus program in Vienna.

Next, I owe great thanks to my professor Mr. Navratil Gerhard, from the Technical University of Vienna, for supervising me and providing with the important contacts which helped to enrich the content of my thesis.

Last but not least I must thank my friends for their great support throughout the completion of this thesis.

Αντί Προλόγου

Στην αυγή της νέας χιλιετίας, μια από τις μεγαλύτερες προκλήσεις που έχει να αντιμετωπίσει η σύγχρονη πόλη είναι η αειφόρος ανάπτυξη. Είναι γνωστό πως τα κέντρα των μεγαλουπόλεων είναι υπεύθυνα για το 75% της κατανάλωσης ενέργειας και για το 80% των συνολικών αέριων ρύπων στον κόσμο. Μπορεί λοιπόν με την χρήση της τεχνολογίας και των αλλαγών στα διάφορα επίπεδα του αστικού και χωροταξικού σχεδιασμού τα αστικά κέντρα να γίνουν φιλικότερα στο περιβάλλον και να καλυτερέψουν την ποιότητα ζωής των πολιτών τους?

Βιώσιμη ανάπτυξη

Η βιώσιμη- αειφόρος ανάπτυξη είναι ένα από τα πιο πολυσυζητημένα θέματα του νέου αιώνα που διανύουμε. Η πρώτη αναφορά σε αυτή έγινε πριν 40 χρόνια. Από τότε γίνονται εκτενείς αναφορές σε αυτή σε πολλά συνέδρια για το περιβάλλον όπως αυτό της Στοκχόλμης και του Ρίου και νέοι ορισμοί δίνονται κάθε φορά. Ο πιο διαδεδομένος ορισμός, που έχει υιοθετηθεί και από τον Οργανισμό Ηνωμένων Εθνών, είναι αυτός της Παγκόσμιας Επιτροπής για το Περιβάλλον και την Ανάπτυξη (WCED) ή αλλιώς Επιτροπή Brundtland. Σύμφωνα με αυτή, αειφόρος ανάπτυξη είναι: «*Η ανάπτυξη που καλύπτει τις ανάγκες του παρόντος χωρίς να θέτει σε κίνδυνο τη δυνατότητα των μελλοντικών γενεών να καλύψουν τις δικές τους ανάγκες».*

Η ιδέα της βιώσιμης ανάπτυξης βασίζεται σε 3 διαστάσεις: Περιβαλλοντική, κοινωνική και οικονομική ανάπτυξη. Οι πιο διαδεδομένες απεικονίσεις της είναι οι 3 πυλώνες, ομόκεντροι κύκλοι, τρίγωνο και άλλα.

Παρόλο που πολλές κυβερνήσεις, κοινότητες, επιχειρήσεις και οργανισμοί έχουν ανταποκριθεί θετικά στη ιδέα της αειφορίας, δεν είναι λίγες οι φορές που παρατηρούμε δράσεις για οικονομική ενδυνάμωση σε βάρος του περιβάλλοντος και της κοινωνικής ευθύνης, γι' αυτό άλλωστε πληθαίνουν και οι φωνές που εναντιώνονται σε αυτή την ιδέα. Το ερώτημα που καλείται αυτή η διπλωματική εργασία να απαντήσει είναι αν είναι δυνατόν μα επιτευχθεί ο στόχος της αειφόρου ανάπτυξης στο επίπεδο του πολεοδομικού και χωροταξικού σχεδιασμού μέσω της εξέτασης της περίπτωσης της πόλης της Βιέννης.

Preface

Nowadays, the sustainable urban development is a huge challenge. The city centers are responsible for the 75% of energy consumption and for the 80% of the pollutant gasses in the world. With the usage of appropriate technology together with the implementation of the different levels of planning, the urban centers can become friendlier to the environment and improve the standard of living of the citizens.

The Idea of Sustainable Development

At the start of the 21st century, the idea of the global sustainable development became one of the most common topics discussed by politicians, scientists, journalists, teachers, students and citizens in many places around the world. In particular, the first decade of the new century is considered as being the decade that there will be many discussions and re-arrangements about the demands of humans on the biosphere.

The idea of sustainability came up more than 40 years ago and was adopted by IUCN (International Union for Conservation of Nature) in 1969. It was one of the main topics of the United Nations Conference on the Human Environment in Stockholm in 1972 and it was coined specifically that it was possible to achieve economic growth and industrialization without environmental damage. In subsequent decades, the integration of sustainable development thinking was gradual developed through The World Conservation Strategy in 1980, the Brundtland Report in 1987, and the United Nations Conference on Environment and Development in Rio in 1992.At the same time the commitment of the governments raised by the elaboration of national planning as well as the participation of business leaders and non-governmental organization of all kinds.

During these decades, the definition of sustainability bumped. The most common definition is the one that is referred to The Report of the Bruntland Commission. The main article of the report is named Our Common Future and it was published by Oxford University Press in 1987 and specifies Sustainability as “The development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (Bruntland Report, 1987).

The definition was not clear, but it cleverly contains within two fundamental concepts:

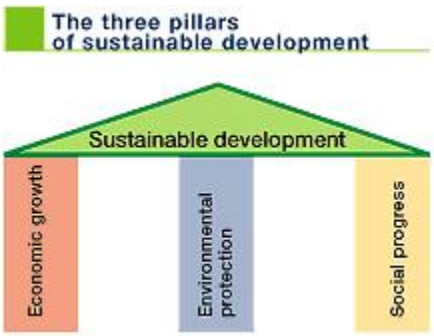
- Alleviation of poverty followed by financial growth
- The prevention of environmental degradation that usually comes along the economic development

The most widespread view pertaining to sustainable development, has become the idea of three dimensions: Environmental, social and economic sustainability. There have been many representations of this idea: as "pillars" as concentric circles, as interlocking circles and many more.

A. Triangle

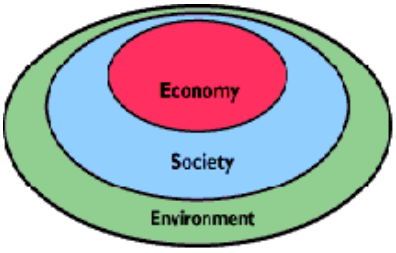
a. Source: www.clarityadvisers.com

B. Pillars



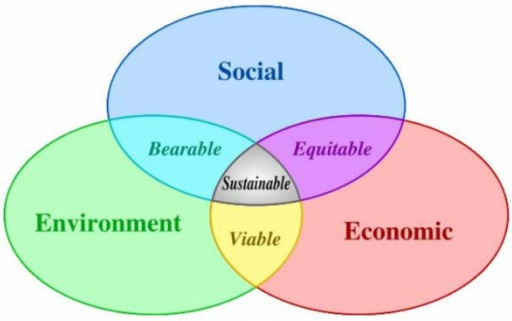
b. Source: www.oknation.net

C. Concentric Circles



Source: www.Sustainablecampus.cornell.edu

D. Overlapping Circles



d. Source: www.ubc.ca/sustainabilityclub

Figure 1: *Four Visual Representations of Sustainable Development: Triangle, Pillars, Concentric circles, Overlapping circles*

Many governments, communities, business and organizations have responded positively towards sustainable development to some point. Very important is to mention that almost

every national government belonging in the United Nations has established a Ministry working on Environmental issues. In addition to that, many municipalities have developed this capacity. During the last 20 years, volume and quality of environmental legislation (international, national and local) has expanded considerably, and through many international agreements (such as the Kyoto protocol) not only the profile of environmental changed but on the same time started to drive global climate policy .

Also it is important to cite that the common awareness on environmental and social issues in development is in many occasions now well developed. People in many countries are well-informed about the issues so they recognize the importance of the quality of the environment for both their own welfare and for the common good

Besides, many global companies has turned into “green” in support of their social responsibility, although for many of them it is just a boutique concern instead of something that leads structural change in the nature or scale of key business.

Notwithstanding, there is a huge paradox here. On one hand, the 21st century is herald as the century of Sustainability, considering the collaboration of the government, the society and business, for design pioneer strategies for increasing human welfare within Earth limits. But, on the other hand, the fact is that global human enterprise quickly becomes less viable and not more sustainable.

It is said that much has been achieved but is this enough? The new worldwide trends approach sustainability or draw away from it? Can urban sustainability be a causing factor for achieving the target of sustainability and how could that happen?

Methodology and references

The necessary information was acquired to a large extent by the following sources:

- Interviews
- Internet research
- Publications
- Web-Portals

The interviews were focused on the field of Vienna's planning system and land administration and accomplished through the assistance and the contacts of our Austrian supervisor. The interviews were used mainly to acquire the most essential information from the experience and the knowledge of the land experts. Moreover, the meetings with them deepened our understanding of the function of the Austrian system. All the interviews were conducted by visiting offices, institutes and municipal departments and by discussing land issues with specialists. In addition, it is worth mentioning that the discussions covered a broad spectrum of topics and comprised sectors such as spatial planning and transport. The list below specifies details of all the interviews which were held in Vienna.

- Federal Office for Metrology and Surveying (BEV)

Interview with Julius Ernst: Senior advisor for land administration and cadastral information systems as well as responsible for issues relating to cadastral offices. In addition, chair of Cadastre and Grundbuch Knowledge Network of euro Geographic's and representative of BEV in the committee on cadastre of the European Union and in the "Eulis" –Program.

- Vienna University of Technology (TU Vienna)

Interview with Robert Kalasek: Department of spatial development, infrastructure and environmental planning, centre of regional science.

Interview with Cristoph Twaroch: Dipl. Engineer and lecturer at the department of jurisprudence.

- Institute of Urbanism, Transport, Environment and Information Society

Interview with Wolfgang Wasserburger: Dipl. engineer and senior consultant in regional and transport planning, online GIS and technical tools.

- Raiffeisen Bank in Wien

Interview with Alexander Vöelkl: Dipl. Engineer and deputy director of Raiffeisen bank's branch.

- Real Estate Agency

Interview with Ernst Glaser: Business office Manager.

- Municipalities Planning Offices

Municipal Department 18:

Mathis Falter: Sector Urban Research and Space analysis.

Municipal Department 21A

Municipal Department 21B

Philipp Fleischmann: Land use and district planning.

Municipal Department 37:

Peter Leithner: Director of the department Constructions and City planning technique.

Municipal Department 41:

Erich Flicker: Dipl. Ing and representative of the departments head

Apart from interviews, internet research enriched the current case study with more details and sources. In addition, it enabled the updating of any information, which has been subjected to changes since the interviewing period. Also our interviews with the land specialists were accompanied by the study of their publications. Publications helped us to conceive the specialists' knowledge and to prepare the appropriate questions for them. Last but not least, most of the information that is concerned with products and web services was derived from web portals.

Κεφάλαιο 1ο: Ορισμοί

Σε αυτό το κεφάλαιο γίνεται προσπάθεια να οριστούν όσο καλύτερα γίνεται ορισμοί που αφορούν στην διπλωματική αυτή εργασία. Αρχικά, πού σημαντικό είναι να οριστεί η έννοια του πολεοδομικού και χωροταξικού σχεδιασμού. Ο ορισμός του σχεδιασμού στην ελληνική και διεθνή βιβλιογραφία είναι αρκετά ασαφής, καθώς ακόμα και οι γλωσσικές διαφοροποιήσεις είναι εμφανείς , καθώς ο ορισμός Planning που χρησιμοποιείται στις αγγλοσαξονικές περιοχές, στα ελληνικά αποδίδεται τόσο με τον ορισμό σχεδιασμός όσο και με το προγραμματισμός. Παρόλα αυτά, το Ευρωπαικό Συμβούλιο των Ομόλογων Υπουργών για το Χωροταξικό Σχεδιασμό, το 1983 έδωσε τον ορισμό «Στόχος του σχεδιασμού είναι η αναβάθμιση της ποιότητας της ζωής των πολιτών με την προώθηση της αειφόρου και ισόρροπης ανάπτυξης, κατοχύρωσης της παραγωγικής και κοινωνικής συνοχής, διασφαλίζοντας παράλληλα την προστασία του περιβάλλοντος στο σύνολο του εθνικού χώρου και στις επί μέρους ενότητες του, ενισχύοντας τη θέση της χώρας στο διεθνές και ευρωπαϊκό επίπεδο. Στο πλαίσιο αυτό επιδιώκεται και η αναβάθμιση του αστικού περιβάλλοντος με σεβασμό των αναγκών και προστασία των δικαιωμάτων των πολιτών» (CEMAT 1983). Οι μορφές σχεδιασμού που συμμετέχουν σε ένα ολοκληρωμένο χωροταξικό σχέδιο είναι το σχέδιο χρήσεων γης, περιβαλλοντικός σχεδιασμός, σχεδιασμός μεταφορών, πολεοδομικός σχεδιασμός και άλλα καθώς και το κάθε σχέδιο από τα παραπάνω εκπονείται σε διαφορετικές σχεδιαστικές κλίμακες και με διαφορετικό χρονικό ορίζοντα. Αυτό που πρέπει να αναλογιστούμε είναι ο νέος ρόλος του σχεδιασμού στην μοντέρνα πόλη και πως μπορεί να συμβάλει στην επίλυση κοινωνικών, οικονομικών και περιβαλλοντικών προβλημάτων.

Στη συνέχεια του κεφαλαίου γίνεται αναφορά στην έννοια του οικισμού καθώς είναι ο μικρότερος οργανωμένος χώρος συγκέντρωσης πληθυσμού, ενώ έπειτα αναλύεται και η έννοια της πόλης καθώς και οι λειτουργίες της. Στην Αυστρία, σύμφωνα με την αντίστοιχη εθνική στατιστική αρχή, υπάρχουν 6 πόλεις με πληθυσμό μεγαλύτερο αυτού των 100000 κατοίκων, 9 πόλεις μετρίου μεγέθους με πληθυσμό που κυμαίνεται από 40000 μέχρι 100000 και τέλος 18 μικρές πόλεις με πληθυσμό μικρότερο των 100000 κατοίκων. Τέλος, πόλη σύμφωνα με τα αυστριακά δεδομένα, θεωρείται κάθε οικισμός με πληθυσμό μεγαλύτερο αυτού των 10000 κατοίκων.

Στην συνέχεια αναλύονται οι βασικές λειτουργίες που πρέπει να διέπουν την πόλη και αυτές είναι: οικονομικές, διοικητικές, κοινωνικές, εκπαιδευτικές, ο τουρισμός και οι μεταφορές. Πολλές από αυτές είναι απαραίτητες για την επιβίωση και εξέλιξη της πόλης. Η πιο σημαντική καθώς προσδιορίζει όλες τις υπόλοιπες είναι η οικονομική λειτουργία που όμως από μόνη της δεν μπορεί να ορίσει μια πόλη. Ακόμη, σημαντικό είναι να τονίσουμε τις αλλαγές που επήλθαν στο αστικό περιβάλλον μετά την βιομηχανική επανάσταση και την έντονη αστικοποίηση που την ακολούθησε.

Τέλος, πρέπει να αναρωτηθούμε άμα η βιώσιμη ανάπτυξη είναι εφικτή σε ένα μέλλον στο οποίο 5 δισεκατομμύρια άνθρωποι θα ζουν σε αστικό περιβάλλον, όπου οι συνήθειες ζωής και κατανάλωσης αλλάζουν και γίνονται πιο εντατικές και οι απαιτήσεις της διατήρησης της ποιότητας ζωής των πολιτών επιτάσσουν την χρήση τεχνολογικών καινοτομιών καθώς και αλλαγές στον τρόπο μετακινήσεων.

Η Αυστρία συμμετέχει στο Ευρωπαϊκό πρόγραμμα **URBAN-NET- A Network of European** National **Programs** εκτός των άλλων δράσεων με σκοπό την βιωσιμότητα που αναλύονται παρακάτω. Το ερώτημα είναι: έχει καταφέρει η Αυστρία και πιο συγκεκριμένα η πόλη της Βιέννης να ανταποκριθεί στις επιταγές της Βιωσιμότητας;

Chapter 1: Definitions

1.1 Definition of spatial planning

Spatial planning is a very important and challenging subject and on the same time a complex one too. It's important to mention that worldwide the definition of "Spatial Planning" is vague. There are several definitions about Spatial/territorial and territory. Also, the fact that there are many linguistic differences among the definitions is considerable. For example, the word "planning" that is commonly used in the Anglo-Saxon countries, in Greek is translated either as "planning" (σχεδιασμός) or as "programming" (προγραμματισμός) . It is obvious that in Greek there is a difference between the definitions of those two words that in English is referred to the elaboration of a plan of the territory. Also, in German, the word that is used, Raumplanung, is a noun –facing the risk of suggesting an objected to be plan, while in English is an adjective, spatial, that refers more to an approach than a concrete object. The simplest definition is the implementation of the architectural design into a City-scale. The European Conference of Ministers responsible for Regional Planning (CEMAT) has adopted the following definition in 1983 : "*Regional/spatial planning gives geographical expression to the economic, social, cultural and ecological policies of society. It is at the same time a scientific discipline, an administrative technique and a policy developed as an interdisciplinary and comprehensive approach directed towards a balanced regional development and the physical organization of space according to an overall strategy*." [1]

Specific professional disciplines that are involved in such a procedure include land use planning, urban planning, transport planning, and environmental planning and also it is important to include other related areas such as economic planning and community planning.

In the following figure, it's shown the relation among spatial/urban planning and other fields of science and art (Aravadinos, 2007)

[1] Prospects of development and of spatial planning in maritime regions Torremolinos, Spain, May 1983

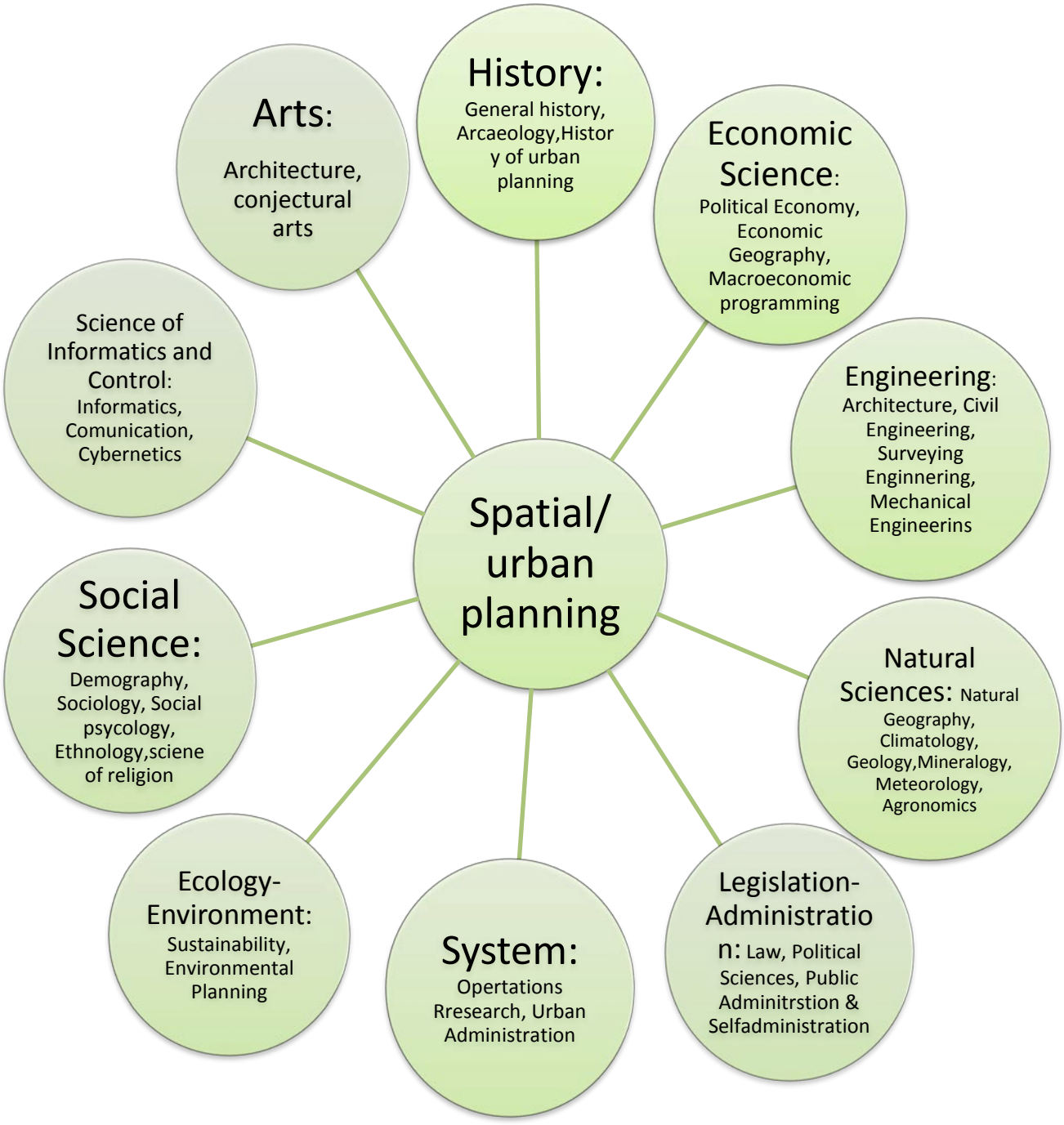

Spatial/ urban planning
History: General history, Arcaeology,Histor y of urban planning
Economic Science: Political Economy, Economic Geography, Macroeconomic programming
Engineering: Architecture, Civil Engineering, Surveying Enginnering, Mechanical Engineerins
Natural Sciences: Natural Geography, Climatology, Geology,Mineralogy, Meteorology, Agronomics
Legislation-Administratio n: Law, Political Sciences, Public Adminitrstion & Selfadministration
System: Opertations Rresearch, Urban Administration
Ecology-Environment: Sustainability, Environmental Planning
Social Science: Demography, Sociology, Social psycology, Ethnology,sciene of religion
Science of Informatics and Control: Informatics, Comunication, Cybernetics
Arts: Architecture, conjectural arts

Figure 1 : Spatial and Urban planning

Meanwhile, the traditional role of planning that was either the determinative or the impulsive structure of the city transits into an assay of finding the conciliate solution among the profits of different social groups, in case that those profits have an impact on the planning. So, the urban planning has become a key of the political authority for solving social and financial problems in the structural space. Apart from this new role, urban planning kept its traditional role, which is the continuous effort of the improvement of life standards inside the city. But, nowadays this is aimed, not only by the technical factor but also the social, the financial, the organizational, the decretive and other factors that obtain in this particular field. To sum up, it's easy to understand that, these days urban planning is influenced by many factors that are not equal to town design, but their association with planning is quite direct.

After all those, it is quite obvious why the word "planning" cannot be used for a particular part of science, but it includes too many others apart the "structure" of the city.

FIELD	RELATION TO "SPACE"	TYPE OF DESIGN	USUAL SCALES USED	TIME TARGET
ARCHITECTURE	Building and surroundings	Archtectural, structural, designs	1:1 - 1:200	present
	Complex, settlement, urban departement	Urban planning studies, street-layout planning, land use planning	1:200 - 1:2000	Short-range planning
URBAN PLANNING	Settlement, towns, city centers	Traditional regulative blueprint, land use planning, urban planning	1:2000 1:20000	Short-range planning (up to 5 years) to long-range planning (up to 20years)
	Metropolitan areas	Metropolitan area planning, Structure plans	1:20000 1:100000	
SPATIAL AND REGIONAL PLANING	Regional areas (districts, provinces, country departements	Regional planning	1:20000 - 1:200000	Basically long-range planning(10-30 years), including some short-range planning(5 years)
	Country	National planning	1:200000- 1:1000000	
	International planning	International programming	various	

Table 1: Planning scales, source: Aravadinos

1.2 City and Settlement

After this general information about the definition and the purpose of the Spatial planning, it is absolutely essential to analyze the basic identification of this science, the city. Before that, it is better to refer to another relative concept that is the settlement. **Urban Settlement** (Aravadinos,2007) is an area with high density of human-created structures, in a way that many functional and territorial relations will exist among them. But, there are many contrapositions about this definition. According to others, it does not matter how many households there will be, and that even two habitats, under some certain circumstances, can be considered as a settlement, although this is considered as an extreme point of view. In general, the meaning of a settlement related to the built-up .

Every city is, as a concept, an urban settlement, but this does not work the other way round. Quantitatively, according to statistical criteria, it is the population living in an area that makes an urban settlement be considered as a city.

In Austria, according to the Austrian Institute of Statistics (www.statistik.at), an area with more than 10000 inhabitants is considered as a city, and a municipality with 5000 to 10000 inhabitants as a town. Specifically, Statistics Austria defines the town regions on the basis of population census data. As in 1971, 1981 and 1991, a town region was defined in 2001 as a core zone with a high density of inhabitants. In the 2001 definition, the density of employees was also taken into account in addition to the density of inhabitants; an outer zone with a high proportion of people commuting to the core zone was also included. Although the basic concept of the formation of town regions remained unchanged, comparability with previous town region definitions was limited due to changes in the measured values and thresholds used as well as refinements to the geographic reference base for determining core zones. Nevertheless, the definition of town regions made on the basis of the 2001 Population Census was developed on the premise of maximum continuity with the previous definitions of town regions. The results of this definition show a total of 34 town regions in which 5.15 million inhabitants (64% of the total population of Austria) lived on the reference date of the 2001 Population Census. Of this figure, slightly more than three quarters (3.94 million) lived in the core zones of the town regions, while around 1.21 million lived in the outer zones. Broken down by the population number in the core

zones of the town regions, the largest town region by far is Vienna; a further three size categories can be identified:

- Six city regions with more than 100 000 inhabitants in the core zone
- Nine medium-sized town regions with 40 000 to 100 000 core zone inhabitants
- Eighteen small town regions with fewer than 40 000 inhabitants in the core zone.

In the following table are presented the federal states of Austria as well as all cities and communes of more than 10,000 inhabitants:

Name	Status	Adm.	C Cf 1981-05-12	C Cf 1991-05-15	C Cf 2001-05-15	C Cp 2011-10-31
Amstetten	City	NÖ	21,989	21,972	22,592	22,917
Ansfelden	City	OÖ	13,324	14,636	14,789	15,696
Baden	City	NÖ	23,140	23,488	24,518	25,155
Bad Ischl	City	OÖ	12,970	13,887	14,073	13,891
Bad Vöslau	City	NÖ	10,524	11,055	10,997	11,327
Bischofshofen	City	Sbg	9,501	10,138	10,084	10,313
Bludenz	City	Vbg	12,891	13,369	13,699	13,714
Braunau am Inn	City	OÖ	16,318	16,264	16,332	16,229
Bregenz	City	Vbg	24,561	27,097	26,747	27,921
Bruck an der Mur	City	Stm	15,068	14,046	13,438	12,592
Brunn am Gebirge	Mkt	NÖ	7,975	8,573	9,424	11,327
Dornbirn	City	Vbg	38,641	40,735	42,297	45,944
Ebreichsdorf	City	NÖ	5,607	7,353	8,788	9,962
Eisenstadt	CityCR	Bgl	10,102	10,349	11,332	13,147
Enns	City	OÖ	9,729	10,192	10,610	11,366
Feldkirch	City	Vbg	23,745	26,730	28,607	31,030
Feldkirchen in Kärnten	City	Ktn	12,153	12,977	14,030	14,294
Gänserndorf	City	NÖ	4,916	6,509	7,928	10,396
Gerasdorf bei Wien	City	NÖ	5,279	6,661	8,231	10,293
Gmunden	City	OÖ	12,653	13,133	13,182	13,151
Götzis	Mkt	Vbg	8,735	9,512	10,095	10,764

Graz	CityCR	Stm	243,166	237,810	226,241	264,351
Hallein	City	Sbg	15,377	17,271	18,398	20,005
Hall in Tirol	City	Tir	12,614	12,368	11,491	12,843
Hard	Mkt	Vbg	10,103	10,747	11,468	12,657
Hohenems	City	Vbg	12,666	13,531	13,889	15,292
Hollabrunn	City	NÖ	10,140	10,461	10,684	11,510
Innsbruck	CityCR	Tir	117,287	118,112	113,457	121,076
Kapfenberg	City	Stm	25,716	23,380	22,233	21,682
Klagenfurt (am Wörthersee)	CityCR	Ktn	87,321	89,415	90,145	94,683
Klosterneuburg	City	NÖ	22,975	24,442	24,816	25,916
Knittelfeld	City	Stm	14,136	12,873	12,740	11,584
Köflach	City	Stm	12,005	11,276	10,671	9,758
Korneuburg	City	NÖ	9,112	9,730	11,033	12,315
Krems an der Donau	CityCR	NÖ	23,056	22,783	23,713	24,080
Kufstein	City	Tir	13,118	13,484	15,359	17,518
Leoben	City	Stm	31,989	28,897	25,802	24,662
Leonding	City	OÖ	19,389	21,209	22,195	25,590
Lienz	City	Tir	11,661	11,864	12,076	11,826
Linz	CityCR	OÖ	199,910	203,044	183,614	190,802
Lustenau	Mkt	Vbg	17,401	18,484	19,707	21,226
Marchtrenk	City	OÖ	9,416	10,369	11,274	12,354
Mistelbach	City	NÖ	10,251	10,234	10,643	11,009
Mödling	City	NÖ	19,276	20,290	20,411	20,507
Neunkirchen	City	NÖ	10,764	10,216	11,028	12,262
Perchtoldsdorf	Mkt	NÖ	13,451	14,051	13,997	14,564
Rankweil	Mkt	Vbg	9,926	10,509	11,171	11,580
Ried in Innkreis	City	OÖ	10,855	11,260	11,402	11,396
Saalfelden (am Steinernen Meer)	City	Sbg	11,420	12,604	15,092	16,006
Salzburg	CityCR	Sbg	139,426	143,978	142,808	148,236
Sankt Andrä	City	Ktn	10,400	10,582	10,719	10,274

Sankt Johann im Pongau	City	Sbg	7,680	8,855	10,259	10,742
Sankt Pölten	CityCR	NÖ	50,419	50,026	49,117	52,091
Sankt Veit an der Glan	City	Ktn	12,007	12,045	12,839	12,646
Schwaz	City	Tir	10,929	11,839	12,211	13,039
Schwechat	City	NÖ	14,834	14,669	15,286	16,553
Seekirchen (am Wallersee)	City	Sbg	6,815	8,273	9,355	9,947
Spittal an der Drau	City	Ktn	14,736	15,346	16,044	15,796
Steyr	CityCR	OÖ	38,942	39,337	39,339	38,215
Stockerau	City	NÖ	12,679	13,608	14,452	15,636
Telfs	Mkt	Tir	7,743	10,179	12,834	14,692
Ternitz	City	NÖ	16,120	15,445	15,232	14,817
Traiskirchen	City	NÖ	14,063	13,852	15,671	17,823
Traun	City	OÖ	21,464	22,260	23,466	23,745
Tulln an der Donau	City	NÖ	11,269	12,038	13,591	15,176
Villach	CityCR	Ktn	52,692	54,640	57,492	59,458
Vöcklabruck	City	OÖ	11,019	11,239	11,694	11,917
Voitsberg	City	Stm	10,945	10,351	10,074	9,640
Völkermarkt	City	Ktn	10,834	11,081	11,372	11,124
Waidhofen an der Ybbs	CityCR	NÖ	11,325	11,435	11,662	11,469
Wals-Siezenheim	Com	Sbg	7,743	9,563	11,024	12,181
Wels	CityCR	OÖ	51,060	52,594	56,481	58,709
Wien [Vienna]	FSt	Wien	1,531,346	1,539,848	1,550,261	1,724,381
Wiener Neustadt	CityCR	NÖ	35,006	35,134	37,626	41,469
Wolfsberg	City	Ktn	24,151	24,358	25,298	24,991
Wörgl	City	Tir	8,610	10,054	10,884	12,773
Zwettl (Niederösterreich)	City	NÖ	11,479	11,427	11,630	11,267

Table 2: Cities and communes in Austria (source http://www.citypopulation.de/Oesterreich-Cities.html)

The principals of the modern urban planning are: Residence, work, leisure-time and transportation. A small settlement that is not considered as a city yet, usually supplies well only

the first need. On the contrary, in the city the provided services and the work opportunities are so many that the majority of the citizens can work, have leisure-time and communicate without coming out of the city borders.

Another factor that tells the city from the settlement is the construction of an artificial environment in it. Normally, the bigger the city is the more isolation it gets from the natural elements that surround it. That is why Pierre Lavedan claims that "in the city, the man dominates on the natural elements, and that is how he can exempt from nature"(P.Lavendan,1936). Howbeit, this exemption of the human from the nature, nowadays it is considered to cause unfavorable effects. In almost every big city, there is not only the degradation of environment, but also they have been marked many physical and psychological disorders, alienation and stress that are caused of the artificial and structural environment. Meanwhile, in smaller cities and settlements, the unreasonably intensive structure, causes serious damage to the natural surroundings. All those were added to the excessive operation of the natural resources, creating the "ecological crisis" that is discussing among governments more and more. So, the definition of Lavedan seems invalid. It is better to define city as the place where the man tries to modify, but at the same time he manages to protect the nature and not destroying it.

1.2.1 The history of the city

Nowadays, that the built-up areas are densely structured and populated, and the urbanism is explosively increased, we do not have the chance to choose a new settlement to live in. We tend to forget that the position of the cities and settlements as they are known today, is not a draw, but once it was chosen among many other alternatives, by the people who created the first residential core-zone in this area. However, the considerations that were taken into for creating the new settlement, still even today play huge part in their development and expansion. In an association to those, the creation of a new city-settlement is also a result of the human social needs, videlicet basic needs for communication and cohabitate with other. Those needs are psychosomatics, financial, spiritual and religion.

1.2.1.1 Primary criteria of regional-planning

The most determinative primary criteria existing, at least in the past –prehistoric and historic eras- can be categorized in the following categories:

a) Climate- natural environment

One of the most important factors for a human to choose or reject an area to structure and live is the micro-climate and the natural surroundings. The climatologic factors influenced the geographical distribution of the population on the planet. They used to transfer to the temperate zone. Though, this distribution is about to change nowadays because the criteria for choosing an area are, to the highest degree, financial.

b) Basic necessities

Primary demand of the humans is to be able to find those basics that are absolutely essential for surviving. Those are, first of all, food and water, and below those the materials that are used for the protection of the weather conditions. Nowadays, that trading has spread and the transportation is easier, the importance of this criterion tends to nullify. But, this inconsideration that the modern people show towards the nature is paid by huge prices for the basics, and sometimes they face lack of those.

c) Defense

The strategic – especially defending- geographical position was extremely important for the location of the settlement. There were many different exemplars, like locating the settlement away from the sea, on a peninsula, on the meander of a river or on an islet.

d) Communication

The need of communication between the cities, leaded to locating the cities in the most beneficiary area as far as the circulatory system, terrestrial or marine is concerned. In the past the factor “defense” was polemic to the factor “communication” but it is remarkable that the most influential settlements going into cities of the past were located on the most important circulatory axes.

e) Preexistent Buildings

An agricultural inauguration, a religion area, a monastery, a sepulture, an elementary building many times is enough to compromise the beginning of the location of the settlement.

f) Distance from other settlements

Until now the criteria that are analyzed are referring to the characteristics of the specific position for locating the new settlement. Although, we have noticed that there are settlements developed in positions that do not perform some advantages in regard to other alternative neighbor positions. In these cases, the explanation comes from the structural development of the wide area and especially from the combined position of the other, small and large, settlements and centers of the geographical union that it belongs. In 1933, Walter Christaller in his principal contribution about “central places” (Zentrale Orte), seeks to explain the number, size and location of human settlements in an urban system. He asserted that settlements simply functioned as 'central places' providing services to surrounding areas (Christaller, 1933).

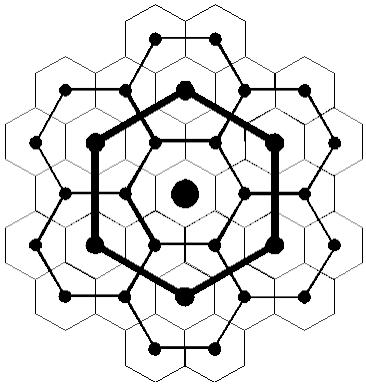


Figure 3: The Ideal central-place hierarchy according to Christaller

1.2.1.1.1 Do those primary criteria stand today?

As it was mentioned before, these primary criteria were used while the first settlements were located, and nowadays are a useful urban-planning tool in the under development countries. The question is if these criteria are considered in the Western world. There are many approximations and specialization try to find the answer. In most of them, the space is divided in three categories and in each category there are different criteria taking place. The first category represents the space on which a wide designed development is applied by the public sector. The decisions that are made are coming as a result to ideologies and politics that are transited into planning. The criteria that are used in this category are:

- Financial- developmental criteria, e.g. low cost housing development, raw material etc
- Social criteria e.g. housing for every citizen, social substructure etc.

- ☞ Technical /scientific criteria like surveying, avoid places because of earthquakes etc.
- ☞ National/strategic criteria like assistance to the borderlands.
- ☞ Cultural criteria having to do with the history the culture and the buildings under preservation.
- ☞ Ecological/environmental criteria like protection of biota.

The Viennese case of planning approaches this category.

In the second category are places modified under regime of free market. Most of the criteria remain the same as in the first category plus a. there are benefits given by the government for specific politics, b. the private business dexterity plays a role in planning.

In the third category are inclusive spaces without designed development created by the public sector, or the appropriate designed tools do not exist. The criteria are depended on the private business dexterity and on the "small or medium" social rank that perform in a profiteering way. Lack of cadastral surveys, ecological movements and environmental consciousness are mentioned in this category.

1.2.2 Basic functions of the city

The main functions are presented below. Of course, those functions are not equally existed in every city.

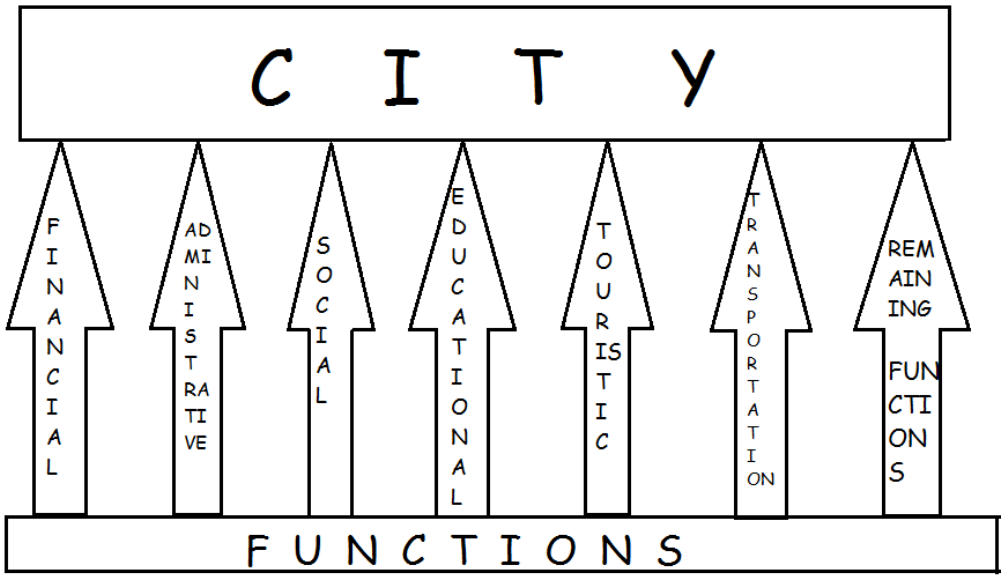


Figure 4: The basic functions of the city, Source: Aravadinos

1) **Financial Function**

The financial circle (work → production → service → consumption → work → ….)is the motile-force for the development of the city. It is especially noticed in industrial cities e.g. centers of car's production like Wolfsburg, Germany and in important commercial centers like New York.

2) Administrative Function

The defensive function in the past and the administrative function in present are determinates for the urban development. It is noticed in the capitals and in cities that are not the financial centers of the wide space.

3) Educational Function

One of the city's roles is to dignify the educational and cultural standards of its citizens. It is noticed in University-cities, museum-cities, cultural city centers etc. The educational-cultural function is highlighted in the city of Vienna and in other Austrian cities like Saltsburg.

4) Social function

The city is the place where there are offered the "social services" like hospitalization, but at the same time the needs of social ability are served. It is marked a facilitation of communication among the citizens that is a remarkable factor fir the city development. On the other hand, if the city-environment is not encouraging the human communication, the person prefers to stay home and to be alienated from the city and the others.

5) Tourism

This function is based to the systematic exploitation and presentation of the natural, historical, artistic resources and the recreational activities that the city offers. The development of tourism demands the existence of means of transport, places for temporary residence and service of a small or big number of visitors. Vienna city has made huge steps towards this function the last ten years and it will be discussed in a next chapter of this thesis.

6) Transportation

Transportation provides connection not only inside the city space but also among the other cities no matter if they are close (e.g. bus) or far away (e.g. airplane). Transportation is an extremely important function for Vienna city especially after the formation of EU-27 because it stands in the middle of the union and is also called “the heart of Europe”.

Some might say that all of the above functions, except the first one, are results of the financial function and its influence on city planning. So it is obvious that the financial factor has become the most important requirement for the subsistence of a city.

1.2.3 The development of City- Urbanism

It is natural that after some time, the development of a settlement starts and the result is the transition into a city. The development comes along with the problems of space organization. The services and the functions are increased but they are contradictory in such a limited space, so the urban-planning intervention stands absolutely essential. The main consideration that turned the urbanism into a global problem is the Industrial Revolution. The Industrial Revolution at the turn of the 19th century led to a chaotic distribution within the city with factories, railroad lines and installations, ports, and warehouses, which polluted the air, soil, and rivers. The traffic, which filled the cities’ streets and squares, increased the noise level and became dangerous to pedestrian movement. The adoption of a number of legislative and municipal acts to control construction, along with some attempts at planned urban development could not alter the generally confused state of construction in capitalist cities. It is significant to mark that today the biggest percentages of population’s rise are mentioned in the developed countries and more specific, despite the urban areas occupy the 2,8% worldwide, more than the 50% of the population inhabits them.

Figure 4 :Viennese Historical Map , Source: http://www.shutterstock.com/pic-76457347/stock-vector-vector-historical-map-of-wien-austria-from-atlas-published-in-other-vector-maps-in-my.html

1.3 Sustainability. Just another trend?

As it was mentioned above, more than half of population lives in towns and cities and this number is expected to rise from 3.3 billion to 5 billion by 2030. This unprecedented urban growth may cost immense socio-political problems or huge amount of risks. We have also to face new challenges due to the new lifestyles that are adopted, and new types of consumption. Moreover, the specialization of economic processes and productions becomes everyday more and more dramatic and last but not least we the need of smart mobility and technological innovation have become absolutely essential for the modern man. All of those factors have an impact on local level, but at the same time it offers the potential for innovative and far-reaching solutions in the city. A sustainable city has to be fostered ecologically, economically and socially, so the urban area must be organized so that:

- The cities remain livable
- The transportation functions
- Basic environmental problems are solved
- The physical resources are not abused
- Water and energy are assured for all

For achieving these targets, it is important to consider the city as an ecosystem. According to Tjallingii, "*the city is conceived as a dynamic and complex ecosystem. This is not a metaphor, but a concept of a real city. The social, economic and cultural systems cannot escape the rules of abiotic and biotic nature. Guidelines for action will have to be geared to these rules" (Tjallingli, 1991).* Like all ecosystems, the city has inputs of energy and materials. The main problems are caused of the growth of these inputs and the inevitable increase of outputs. By considering the city as a system and by analyzing the pathway along which energy and materials move, it is possible to begin managing the all those systems and technologies that allow the termination of natural processes, the decrease of physical resources' use, the recycling of materials and the conservation of energy (Newman, Kenworthy, 1999)

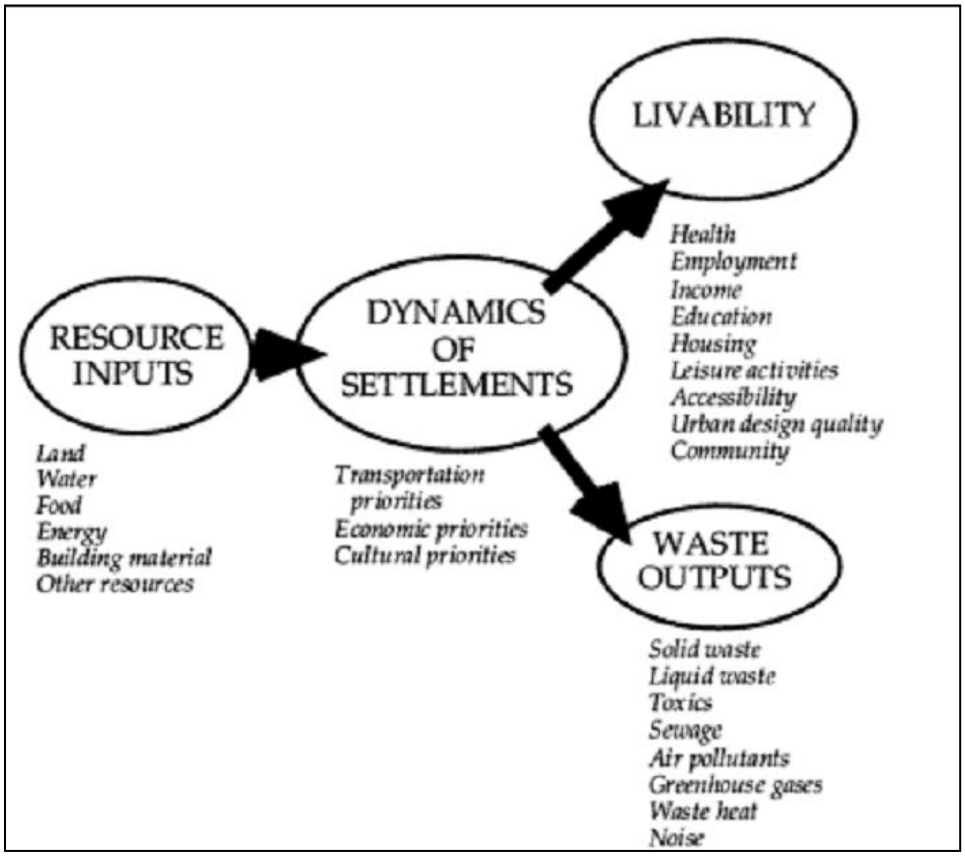


Figure 5 model of human settlements as it is shown in the book "Sustainability and cities: overcoming automobile dependence"

There have begun many programs and strategies around the world spreading this idea of sustainability to both new development and redevelopment of existing areas. One of those programs that Austria is participating also, is the **URBAN-NET- A Network of European** National **Programs.** This project is funded by the European Commission's 6th Framework Programme under the European Research area Network initiative. The project sets out to address the urban research agenda in Europe and will result in long lasting transitional coordination primarily though jointly funded research programs.

The priority research areas of those programs are:

- Enhancing citizen participation in urban governance
- Organizational innovation to achieve integrated urban management
- Policies and practices to secure sustainable development
- Changing dynamics of local democracy
- Basics of land-use settlement
- Driving forces of land-use
- Spatial aspects of settlement and cities
- Socio-economic impacts and consequences of land use
- Implementation of a sustainable land-use policy
- Curbing climate change adaption and mitigation
- Living with climate change-quality of life
- Handling uncertainty: risk assessment and management
- Policy making in the face of climate change- the integrated approach
- Planning, design management
- Social well-being- interaction and inclusion
- Ecosystem services, leisure and recreation

In this thesis I will investigate how this new approach of sustainability has affected the planning system of Austria and more particular of Vienna.

Κεφάλαιο 2ο: Περιοχή Μελέτης

Σε αυτό το κεφάλαιο γίνεται αναφορά στην περιοχή η οποία μελετάται στην συγκεκριμένη διπλωματική εργασία. Η ευρύτερη περιοχή είναι η Αυστρία ενώ το μεγαλύτερο βάρος έχει δοθεί στην πόλη της Βιέννης. Η Αυστρία είναι κράτος της κεντρικής Ευρώπης και καλύπτει περίπου 83. 855 τετραγωνικά χιλιόμετρα. Το κλίμα της είναι αλπικό κυρίως λόγω της παρουσίας των Άλπεων οι οποίες έχουν επηρεάσει και την τοπολογία της χώρας, καθώς πρόκειται για έντονα ορεινή περιοχή με μέσο υψόμετρο τα 500μέτρα. Το κυβερνητικό της σύστημα είναι η Κοινοβουλευτική Δημοκρατία και διοικητικά χωρίζεται σε 9 ομοσπονδιακά κρατίδια με πρωτεύουσα του κράτους την Βιέννη. Ακόμα, συγκαταλέγεται στις πιο πλούσιες χώρες του κόσμου καθώς καταλαμβάνει την 14η θέση στην αντίστοιχη λίστα της World Bank. Εκτός αυτού, συγκαταλέγεται στην πρώτη εικοσάδα των χώρων με τον υψηλότερο δείκτη ανάπτυξης.

Η Βιέννη είναι η μεγαλύτερη πόλη της Αυστρίας. Είναι πόλη και ομοσπονδιακό κράτος ταυτόχρονα. Βρίσκεται στην βορειοανατολική Αυστρία. Την διαπερνάει ο ποταμός Δούναβης και το υψόμετρο της περιοχής κυμάινεται από 151 έως 524 μέτρα. Περίπου 1.723.000 άνθρωποι κατοικούν την πόλη. Εκτός από πρωτεύουσα του κράτους, αποτελει και πνευματικό, εκπαιδευτικό και πολιτικό κέντρο. Αξιοσημείωτο είναι ότι περίπου το 25% του πληθυσμού της Αυστρίας κατοικεί στην Βιέννη και σύμφωνα με τα στοιχεία της ευρωπαικής στατιστικής υπηρεσίας είναι η 9η μεγαλύτερη πόλη της Ευρώπης. Σκοπός επίσης του κεφαλαίου είναι και η ανάδειξη των αστικών λειτουργιών, όπως αυτές παρουσιάστηκαν στο προηγούμενο κεφάλαιο στην πόλη της Βιέννης.

Διοικητικά, είναι χωρισμένη σε 23 διαμερίσματα τα οποία εκλέγουν τον που θα εκπροσωπήσει το κάθε διαμέρισμα στο δημοτικό συμβούλιο. Ο πρόεδρος του συμβουλίου είναι ο δήμαρχος. Όσον αφορά στην κοινωνική λειτουργία της πόλης, η Βιέννη είναι ιδιαίτερα ανεπτυγμένη. Υπάρχουν τα πολλές δημοτικές υπηρεσίες που υποστηρίζουν τα δικαιώματα όλων των κοινωνικών ομάδων όπως οι μετανάστες, τα παιδιά και οι γυναίκες. Ακόμα πολύ σημαντική θεωρείται και η προσφορά ελεύθερων χώρων πρασίνου στην πόλη, η ύπαρξη νοσοκομείων και εκπαιδευτικών ιδρυμάτων που απευθύνονται σε όλους τους κατοίκους της πόλεις ανεξαρτήτου

κοινωνικής ομάδας. Για την καλύτερη εξυπηρέτηση των πολιτών, υπάρχει η ανοιχτή ιστοσελίδα της κυβέρνησης (e-government) με όλες τις πληροφορίες. Όπως αναφέρθηκε και προηγουμένως, η αυστριακή πρωτεύουσα είναι πολιτιστικό κέντρο της Αυστρίας αλλά και της Ευρώπης. Πολλά διεθνώς αναγνωρισμένα θέατρα και όπερες στεγάζονται στο κέντρο της πολης και ένα από τα πιο διάσημα μουσειακά συγκροτήματα βρίσκεται εδώ, το Museumsquartier. Πολύ σημαντικό κομμάτι της πόλης είναι επίσης και η Αρχιτεκτονική της καθώς στην Βιέννη βρίσκονται κάποια από τα πιο γνωστά παραδείγματα της Art Nouveau. Στο σημείο αυτό, είναι σημαντικό να παρατηρήσουμε ότι οι κάτοικοι της πόλης σε ποσοστό 71% είναι ικανοποιημένοι με την προσφορά της πόλης τους σε κοινωνικές εκδηλώσεις την στιγμή που στην Αθήνα το αντίστοιχο ποσοστό δεν ξεπερνάει το 28%. Επίσης, η κυβέρνηση της Βιέννης αντιλήφθηκε την ζωτική σημασία του τουρισμού, αφού είναι σημαντική πηγή εσόδων για την χώρα και τρόπος καταπολέμησης της ανεργίας, και επένδυσε σε αυτό. Σημερα η Βιέννη είναι ένας από τους σημαντικότερους τουριστικούς προορισμούς της Ευρώπης προσελκύοντας το τελευταιο χρόνο 11,4 εκατομμύρια τουρίστες. Οι πολεοδόμοι που δουλεύουν για τον δήμο προσπαθούν να βρουν την λεπτή γραμμή ανάμεσα στη δημιουργία ελκυστικού για τους τουρίστες κέντρου και πόλης για τους πολίτες. Στην άνθιση του τουρισμού σημαντικό ρόλο έχει παίξει και η βελτίωση του συστήματος συγκοινωνιών της πόλης. Το υπόγειο και υπέργειο σύστημα συνδέει όλα τα σημεία της πόλης μεταξύ τους τόσο το πρωί όσο και κατά τη διάρκεια της νύχτας. Τέλος, όπως τονίστηκε και στο προηγούμενο κεφάλαιο, η πιο σημαντική λειτουργία είναι η οικονομική. Περίπου το ¼ των επιχειρήσεων της Αυστρίας στεγάζεται στην Βιέννη. Η κυβέρνηση της Βιέννης παρέχει οικονομική στήριξη στις μικρές και μεσαίες επιχειρήσεις . Οι περισσότερες από αυτές αφορούν στην εξέλιξη της Τεχνολογίας. Στα πλαίσια της οικονομικής ανάπτυξης της ευρύτερης περιοχής άλλωστε, η Βιέννη μαζί με άλλες πόλεις της Αυστρίας ,της Σλοβακίας, της Ουγγαρίας και της Τσεχίας συνεργάζονται στα πλαίσια του CENTROPE, πρόγραμμα για την οικονομική εδραίωση της Κεντρικής Ευρώπης που στηρίζεται από την Ευρωπαϊκή ¨Ένωση.

Τέλος, είναι σημαντικό να σημειώσουμε ότι η Βιέννη αναδείχτηκε για 3η συνεχόμενη φορά ως η πιο βιώσιμη πόλη ανάμεσα σε 121 πόλεις συγκρίνοντας τις πολιτικοοικονομικές και κοινωνικές λειτουργίες τους καθώς και τις υδρολογικές υποδομές τους τις μεταφορές. Ακόμα, αναδείχτηκε ως η πιο «Έξυπνη πόλη» του κόσμου μπροστά από πόλεις όπως η Νέα Υόρκη και το Παρίσι και τέλος σύμφωνα με το Economist Intelligence Unit (EIU, 2011) είναι η ευρωπαϊκή πόλη με την καλύτερη ποιότητα ζωής και δεύτερη στον κόσμο μετά την Μελβούρνη της Αυστραλίας.

Chapter 2: The Study Area

1. Austria

Austria (German: Österreich), or officially the Republic of Austria, is a landlocked country of about 8,470,000 inhabitants. It is bordered by Hungary and Slovakia to the East, Slovenia and Italy to the South, Switzerland and Liechtenstein to the West and Czech Republic and Germany to the North, as it is shown in Figure 5

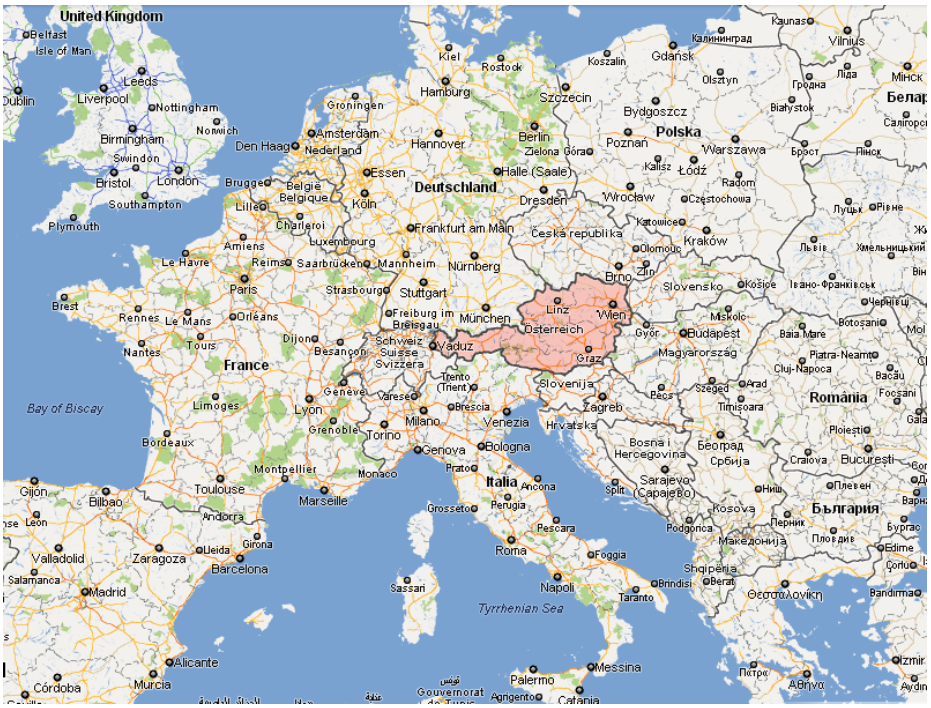
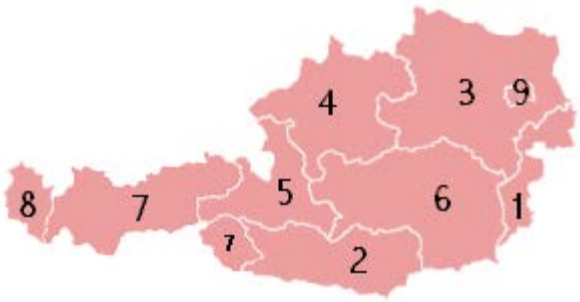


Figure 6 Austria in Europe. Source: maps.google.com

The territory of Austria covers approximately 83,855 km^2 and has a temperate and alpine climate. Austria's terrain is highly mountainous due to presence of the Alps, and most of the country is over 500m and the highest point is 3,798m. The official language is German. The system of government is Parliamentary Representative Democracy. Austria is comprised in nine federal states. Austria is one of the richest countries in the world with a nominal per capita GDP of $48,350 ranked 14th according to (World Bank, 2011). The country has developed a high standard of living and in 2011 was ranked 19th in the world for its Human Development Index. The capital and largest city is Vienna.

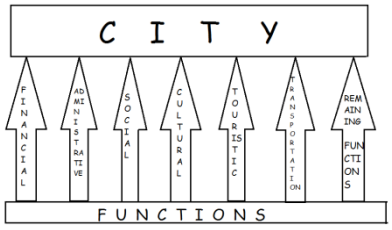


1. Vienna
2. Lower Austria
3. Upper Austria
4. Styria
5. Tyrol
6. Carinthia
7. Saltsburg
8. Voralberg
9. Burgenland

Figure 7 : The Federal States of Austria Source: Wikipedia

2. Vienna

Vienna (German: Wien) is the capital and largest city of Austria. Vienna is a city and a federal state in the same time. It is located in northeastern Austria, at the easternmost extension of the Alps in the Vienna Basin. The earliest settlement, at the location of today's inner city, was south of the meandering Danube while the city now spans both sides of the river. Elevation ranges from 151 to 524 m. Vienna is Austria's primary city of roughly 1,723,000 people (2.4 million within the metropolitan area) and more than 25% of Austria's population inhabits there. It is by far the biggest city in Austria and in the same times its cultural, economic and political center. It is the 9th-largest city by population in EU according to Eurostat's survey (Eurostat 2011). The main industries in the city produce machinery, chemical products, furniture, porcelain and glassware. Furthermore, a very important financial factor for the city is tourism as many art pieces are concentrated there and also it is regarded as the *City of Music.*



As it was shown in the previous chapter, the city has to perform some criteria-functions. In the next brief paragraphs, those functions are described to understand how the city of Vienna works.

i) Administrative Function:

Vienna is composed of 23 districts (Bezirke). Administrative district offices in Vienna (called Magistratisches Bezirksamt) serve similar to those in the other states (called Bezirkshauptmannschaft), the officers being subject to the Landeshauptmann (which in Vienna is the mayor). Exception is the police, which in Vienna is governed by the President of the Police (at the same time one of the nine Directors of Security of Austria), a federal

office, directly responsible to the Minister of the Interior. As had been planned in 1919 but not introduced, the district residents in Vienna are electing a District Assembly (Bezirksvertretung) which chooses the District Head (Bezirksvorsteher) as political representative of the district on city level. City hall has delegated maintenance budgets, e.g., for schools and parks, so that they are able to set priorities autonomously. Any decision of a district can be overridden by the city assembly (Gemeinderat) or the responsible city councilor (Amtsführender Stadrat).

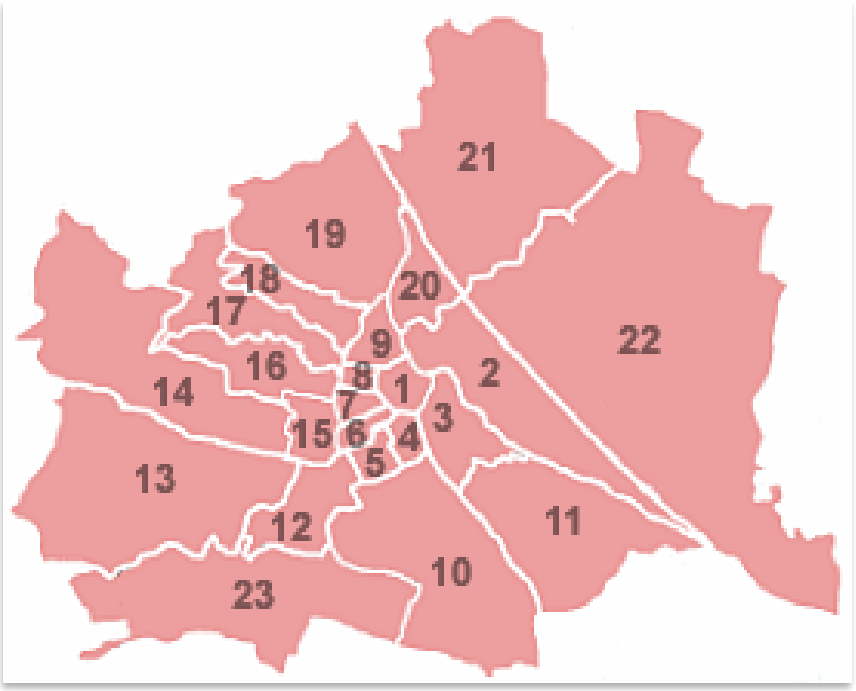


Figure 7: The Districts of Vienna. Source http://de.wikipedia.org/wiki/Datei:Wienbez.png

1.Innere Stadt
2. Leopoldstadt
3. Landstraße
4. Wieden
5. Margareten
6. Mariahilf
7. Neubau
8. Josefstadt
9. Alsergrund
10. Favoriten
11. Simmering
12. Meidling
13. Hietzing
14. Penzing
15. Rudolfsheim-Fünfhaus
16. Ottakring
17. Hernals
18. Währing
19. Döbling
20. Brigittenau
21. Floridsdorf
22. Donaustadt
23. Liesing

The heart and historical city of Vienna, a large part of today's Inner Stadt, was a fortress and surrounded by fields in order to defend itself from potential attackers. In 1850, Vienna with the consent of the emperor included 34 surrounding villages, called Vorstädte, into the city limits (districts no. 2 to 8, since 1861 with the separation of Margareten from Wieden no. 2 to 9). Consequently the walls were razed after 1857, making it possible for the city centre to expand. In this place, a broad boulevard called the Ringstraße was built, along which imposing public and private buildings, monuments, and parks were created until the turn of the century such as the

Rathuas (town hall), the Burgtheater, the Parliament, the University, the twin museums of natural history and fine art and the Staatsoper. From 1850 to 1890, city limits in the West and the South have mainly followed another wall called "Linienwall". Outside this wall from 1873 onwards a ring road called "Gürtel" was built. In 1890 it was decided to integrate 33 suburbs (called Vororte) beyond that wall into Vienna by 1 January 1892 and transform them into districts no. 11 to 19 (district no. 10 had been constituted in 1874), hence the Linienwall was torn down from 1894 onwards. In 1900, district no. 20, Brigittenau, was created by separating the area from the 2nd district. From 1850 to 1904, Vienna had expanded only on the right bank of the Danube, following the main branch before the regulation of 1868–1875, i.e., the Old Danube of today. In 1904, the 21st district was created by integrating Floridsdorf, Kagran, Stadlau, Hirschstetten, Aspern and other villages on the left bank of the Danube into Vienna, in 1910 Strebersdorf followed. On 15 October 1938 the Nazis created Great Vienna with 26 districts by merging 97 cities and villages into Vienna, 80 of which have returned to surrounding Lower Austria in 1954. Since then Vienna has 23 districts.Industries are located mostly in the southern and eastern districts. The Innere Stadt is situated away from the main flow of the Danube, but is bounded by the Donaukanal ("Danube canal"). Vienna's second and twentieth districts are located between the Donaukanal and the Danube River. Across the Danube, where the Vienna International Centre is located, and in the southernmost area are the newest parts of the city (districts 21–23).

ii) Social Function

The social function in Vienna is especially developed. There are many social services provided by the municipality of Vienna for almost every social group. For example the Municipal Department 57- City of Vienna Women's Department (MA 57) is responsible for the promotion and coordination of women's issues. It advocates a gender-equitable society which offers women and men equal living and working opportunities. Moreover, the "Kinder & Jugend Anwaltschaft Wien" (the children's and youth Ombuds-office) is a facility established by the City of Vienna for the protection of children's and young people's interests. The Ombuds-Office is available to all children and young people. Also, the Municipal Department 17- integration and Diversity is responsible for the normal incorporation of the immigrants in Vienna's society. Furthermore, Vienna has a wide range of hospitals offering different types of treatment. The locations, size and equipment of hospitals and the other medical services are laid down in a hospital plan for

ensuring humane, needs-oriented, economical and city-wide patient care. Vienna is also Austria's main centre of education and home to many universities, professional colleges and gymnasiums (high school). Last but not least, Vienna possesses many park facilities, includine the Stadtpark, the Volksgarten, the Donaupark, the Prater and many more. All of the social facilities provided by the municipality of Vienna are described with details in the official e-government page (www.sozialinfo.wien.at) that is very important in this "Internet-era" that we cover.

iii) **Culture**

It is also very important to mention that art and culture have a long tradition in Vienna, including theatre, opera, classic music and fine arts. The Burgtheater is considered one of the best theaters in the German-speaking world. Other theaters are the Volkstheater Wien and the Theater in der Josefstadtalso that also enjoy good reputations. There is as well a multitude of smaller theatres, in many cases devoted to less mainstream forms of the performing arts, such as modern, experimental plays or cabaret. Vienna is also home to a number of opera houses, including the Theater an der Wien, the Staatsoper and the Volksoper, the latter being devoted to the typical Viennese operetta. There are many museums lying in Vienna, many of them used to be Palaces and are dedicated to the Habsburg dynasty. Also, in 1990s, the former Imperial Stalls converted into a museum complex, called "Museumsquartier", consisting some of the most important museums in Austria, like MUMOK (Museum of Modern Art).

Figure 8: Aerial photo of the Museumsquartier Source: vho.at

Architecture is also important and admirable in the city. A variety of architectural styles can be found, such as the "Romanesque Ruprechtskirche" and the "Baroque Karlskirche". Styles range from classicist buildings to modern architecture. Art Nouveau left many architectural traces in Vienna. The "Secession building", "Karlsplatz Stadtbahn Station" and "the Kirche am Steinhof" by Otto Wagner rank among the best known examples of Art Nouveau in the world.

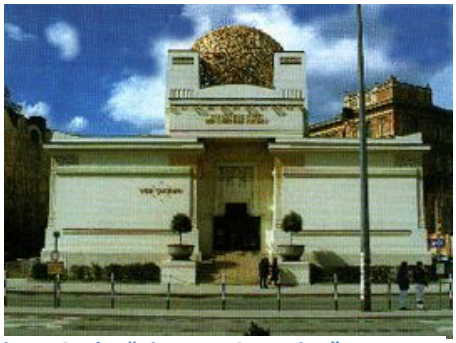


Figure 9: The "Viennese Secession" source: http://www.wien.info

It is significant to note that in a survey on perceptions of quality of life in 75 European cities, the agreement of the population with the statement: "I am very satisfied with cultural facilities such as concert halls, theatres, museums and libraries in the city" was the highest in Vienna (71%), when in Athens the people that meet this statement are only the 28% of the population. (European Commission, 2007).

iv) Tourism

Vienna's government has recognized the vital importance of the tourism for a city, as long as it brings in large amounts of income and it creates opportunities for employment in the service industries that are associated with tourism, so it made many strategic moves towards this function. Nowadays, Vienna is a tourist destination that enjoys a high reputation especially for its artistic and cultural offerings and many important historical sights. But Vienna is not only a historical Gothic city, but also a modern and trendy city offering many new, cultural, art scenes, a huge variety of restaurants and cafes and – as the only capital in the world – its own wines grown and go under vinification within the city limits. 2011 was the most successful year of Vienna tourist industry so far, reaching the number of 11.4 million tourists. The urban planners try to develop strategies to open up the historical center to the tourists, but they keep in mind that the center must be attractive to the local people as well. The developed transport system played important role to this increase.

Figure 10: Christmas market in Shoenbrunn palace attracts many tourists Source Wien.at

Also, from 1995 the government issues the "Vienna Card", a card that offers many discounts and free pass for the means of transportation. Moreover, there is a big touristic campaign for Vienna under the motto: "Vienna now or never", that presents the city's attractions to all over the world. Last but not least, there are many festivals and markets taking place in the city during the year, like Christmas markets and the Donauinselfest, that attract many tourists from every spot of the planet.

v) Transportation

Vienna has a well-developed public transportation network consisting of buses, trains, trams and undergrounds that drive to almost every place of the city. Vienna public transport Wiener Linien operates five underground lines, 30 tram and 83 bus lines, of which 23 are night lines. Also, Vienna is developing into the transport and service platform of the central, eastern and south-eastern European countries as it lays in the center of the European Union of 27. Meaningful is to note that Vienna and Bratislava, the twin city area as it is called, have developed a mutual transportation system. In fact the distance between the two capitals is 60 km and it can be covered by motorway, railway and the Twin City Liner catamarans. Vienna is served by Vienna International Airport, located 18 km southeast of the city center next to the town of Schwechat. The Vienna's government, has taken many appropriate measures in interest of intelligent mobility in order to counter the effects of rampant private transportation that will be discussed widely in next chapter.

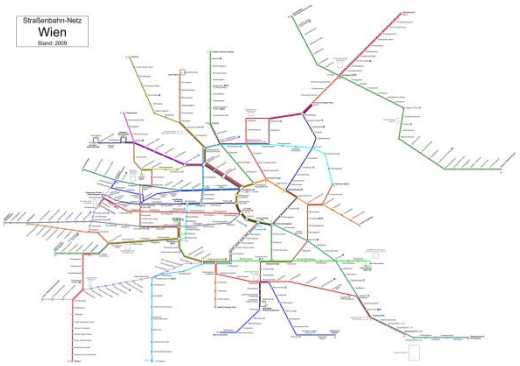


Figure 11: Tthe entire transport network of Vienna leads to every part of the city Source: Wiener Linien

vi. Financial Function

As it was mentioned in the previous chapter of this thesis, the financial function has become the most important requirement of the subsistence of a city. All of the previously mentioned functions are result of the financial circle. Vienna is the driving force behind the Austrian economy and its economy is developing well against the latest continuing worldwide economic and financial crisis. About 300 international groups have set up companies in Vienna to date. Many of them use Vienna as a hub and competence centre for business with Central and Eastern Europe. Hence, Vienna has also established itself as a strong partner for cross-border cooperation in Central and Eastern Europe. There are about 450,000 enterprises in Austria. More than 103,000 or about a quarter of this total are located in Vienna. 41,000 of them have more than one employee. 31,000 or 43 per cent of all enterprises are one-person enterprises. The City of Vienna provides strong support and targeted promotion-measures to small and medium-sized enterprises. About 30,000 Vienna-based enterprises are engaged in trade. Approximately 20,000 companies produce high-tech goods and have more than 150,000

employees. This corresponds to an increase of 33 per cent since 1998. This means that more than 20 per cent of all employees in Vienna are now active in the technology sector. Important information is that more than one third of the sole proprietors in Vienna have a migration background. These “ethnic economies” are indispensable for Vienna because they give it an additional competitive edge in business with Eastern Europe. Furthermore, Vienna offers about one quarter of all jobs in Austria and has one of the smallest percentages of unemployment in Europe. Also, after the acceding of Slovakia, Hungary and Czech Republic in European Union, a new project took place to establish a new city quarter in the Central Europe, called CENTROPE. CENTROPE is a joint initiative of the Austrian Federal Provinces of Vienna, Lower Austria and Burgenland, the Czech Region of South Moravia, the Slovak Regions of Bratislava and Trnava, the Hungarian Counties of Győr-Moson-Sopron and Vas as well as the Cities of Bratislava, Brno, Eisenstadt, Győr, Sopron, St. Pölten, Szombathely and Trnava. This project is one of the most important projects of European Union and contributes meaningfully in the economic growth of those regions, and of course Vienna. Last but not least, the port of Vienna is also of increasing economic importance, and its business on the Danube is booming. The dockyard business is flourishing, even in times of a persistent economic crisis. The logistics centre of Vienna’s harbour handles no less than 12 million tons of goods. The aim is to develop the port of Vienna into one of the most modern and efficient logistics hubs of Central and South Eastern Europe. The new container terminal built jointly by Wiener Hafen and the Austrian Federal Railways (ÖBB) was opened in autumn 2008. It has increased the handling capacity of the harbor to about 500,000 container units per year.

Finally, according to Mercer’s study, Vienna is for the 3rd time in a row the most livable city. The survey evaluates the quality of living in 221 cities around the world comparing the political, social, financial and educational functions, and infrastructural conditions such as, public transportation power and water supply. Also, the first global comparison of cities in terms of innovation, technology and sustainability listed Vienna as the number 1 of the so-called "Smart Cities" at the beginning of 2012 - ahead of Toronto, Paris and New York. The ranking was prepared by the American climate strategist Boyd Cohen. In August 2011, the Economist Intelligence Unit (EIU) recognized Vienna as the city with the highest quality of life in Europe and the second-highest in the world in a comparison between 140 metropolises around the globe. Vienna was only surpassed by Melbourne, Australia.

Κεφάλαιο 3ο: Διοικητική Οργάνωση

Η Αυστρία είναι ομοσπονδιακό κράτος το οποίο αποτελείται από 9 ομόσπονδα κρατίδια συμπεριλαμβανομένου του Ομόσπονδου κράτους-πόλης της Βιέννης. Η δημόσια διοίκηση αποτελείται από 3 επίπεδα τοπικής εξουσίας και 4 επίπεδα διοικητικής εξουσίας τα οποία είναι χωρισμένα ως εξής: Εθνική Κυβέρνηση, Ομοσπονδιακά κρατίδια, επαρχίες, δήμοι. Η κυβέρνηση από αυστηρό διαχωρισμό των διάφορων πεδίων ευθύνης, τα μέλη της κυβέρνησης των κρατιδίων είναι υπεύθυνα για καθήκοντα που έχουν οριστεί από την Κυβέρνηση ενώ οι δήμοι είανι αυτόνομες τοπικές αυτοδιοικήσεις. Στο Σύνταγμα ορίζονται οι δράσεις τους.

Όσον αφορά στο τοπικό επίπεδο, υπάρχουν 2359 Δήμοι. Ο επικεφαλής είναι ο Δήμαρχος ο οποίος στην Βιέννη εκλέγεται από εκλογική διαδικασία. Το εκτελεστικό όργανο έιναι το τοπικό διοικητικό συμβούλιο στο οποίο μετέχουν μέλη από διαφορετικές πολιτικές παρατάξεις και ανάλογα με τα εκλογικά αποτελέσματα. Οι διοικητικές επιτροπές έιναι μέρος της τοπικής αυτοδιοίκησης και κάθε μία από αυτές διοικείται από έναν Δημοτικό Σύμβουλο. Για παράδειγμα η διοικητική επιτροπή για τον πολεοδομικό σχεδιασμό, τις μεταφορές, την προστασία του περιβάλλοντος, την ενέργεια και την συμμετοχή των πολιτών διοικείται από ένα μέλος του δημοτικού συμβουλίου ενώ χωρίζεται σε 11 μικρότερες διοικητικές επιτροπές με τον δικό της διευθυντή η κάθε μια. Η εξεταστική επιτροπή του δήμου είναι το δημοτικό συμβούλιο. Οι αρμοδιότητες της τοπικής κυβέρνησης είναι οι κοινωνικές υπηρεσίες, η δημόσια τάξη, ο πολεοδομικός σχεδιασμός, η διαχείριση των υδάτων και των απορριμμάτων και οι συγκοινωνίες.

Όσον αφορά στο διοικητικό επίπεδο των κρατιδίων, η χώρα αποτελείται από 9 ομοσπονδίες οι οποίες έχουν η κάθε μια το δικό τους Σύνταγμα καθώς και νομοθετική εξουσία. Οι διοικητικές ομάδες είναι το περιφερειακό κοινοβούλιο και η κυβέρνηση Το κοινοβούλιο , τα μέλη του οποίου προκύπτει έπειτα από καθολική ψηφοφορία, εκλέγει τον κυβερνήτη και την κυβέρνηση. Η κυβέρνηση είναι το εκτελεστικό όργανο του κρατιδίου και διοικείται από τον κυβερνήτη ο οποίος είναι αντιπρόσωπος του κρατιδίου. Οι αρμοδιότητες των κρατικών αρχών έιναι η ενεργειακή διανομή, η θέσπιση του κρατικού νόμου, η υγεία, η άθληση και η ψυχαγωγία, το περιβάλλον και οι μεταφορές.

Σε εθνικό επίπεδο, ο πρόεδρος είναι ο αντιπρόσωπος του ομοσπονδιακού κράτους και εκλέγεται απευθείας με καθολική ψηφοφορία. Το κύριο ομοσπονδιακό όργανο είναι το Εθνικό Συμβούλιο το οποίο επίσης εκλέγεται από ψηφοφορία και στη συνέχεια εκλέγει τον Καγκελάριο ο οποίος σχηματίζει το υπουργικό συμβούλιο. Το Ομοσπονδιακό συμβούλιο εκλέγεται από τις περιφερειακές κυβερνήσεις. Οι κύριες αρμοδιότητες του είναι η θέσπιση του ομοσπονδιακού νόμου, οι φορολογικές ρυθμίσεις, η άμυνα, η ανώτερη και ανώτατη εκπαίδευση, εθνική κυριαρχία , και οι σιδηροδρομικές, ποτάμιες και εναέριες μεταφορές.

Η Βιέννη είναι ταυτόχρονα δήμος και ομοσπονδιακό κράτος και έτσι οι αρμοδιότητες της κυβέρνησής της είναι τοπικές και περιφερειακές.

Όσον αφορά στον σχεδιασμό, το αυστριακό σύνταγμα δίνει το δικαίωμα στους δήμους να έχουν δικό τους σύστημα σχεδιασμού για την περιφέρεια. Παρόλα αυτά, το ομόσπονδο κρατίδιο λειτουργεί ως το ελεγκτικό αλλά δεν συμμετέχει στις σχεδιαστικές διαδικασίες. Εκτός από κάποια χωροταξικά σχέδια, δεν υπάρχουν άλλα δεσμευτικά σχεδιαστικά όργανα στις υψηλότερες βαθμίδες της κυβέρνησης. Είναι σημαντικό να τονίσουμε ότι το ιεραρχικό κυβερντητικό σύστημα της Αυστρίας είναι αρκετά ασθενές καθώς κάθε κρατίδιο μπορεί έχει τις δικές του αρμοδιότητες και τομεακές και περιφερειακές συνεργασίες υπάρχουν μόνο εθελοντικά κάτι που δημιουργεί προβλήματα στις σχέσεις μεταξύ των διαφορετικών επιπέδων διοίκησης.

Τα σχέδια των χρήσεων γης και των χωρικών ζωνών γίνονται από το Δήμο. Σε αυτά περιγράφονται οι πιθανές χρήσεις γης αλλά δεν είναι υποχρεωτική η υλοποίησή τους. Επίσης ο Δήμος σχεδίαζει τα οικοδομικά σχέδια και κάποια υπερτοπικά πολεοδομικά σχέδια. Σημαντικό πλεονέκτημα έιναι ότι μέσω τον τοπικών και υπερτοπικών ρυθμίσεων , μπορούν να προσελκύσουν πολλές εταιρείες και νέους κατοίκους , που με τη σειρά τους θα πληρώσουν φόρους στο κράτος το οποίο θα μοιράσει τα έσοδα του στους δήμος ανάλογα με τον πληθυσμό τους.

Παρόλα αυτά, το πολεοδομικό σύστημα της Βιέννης είναι ιδιαίτερα συντηρητικό και παλαιομοδίτικο. Το εθνικό σχεδιαστικό επίπεδο σχεδόν εκλείπει καθώς οι κύριες αρμοδιότητές του είναι οι εναέριες, ποτάμιες και σιδηροδρομικές μεταφορές. Σημαντικό είναι να τονιστεί ότι δεν υπάρχει υπουργείο Ποέοδομικού σχεδιασμού της Αυστρίας, αλλά μόνο το Αυστριακό Συνέδριο για την Χωροταξία, οργανισμός που ιδρύθηκε το 1971 από την ομοσπονδιακή

κυβέρνηση. Έτσι παρατηρούνται μεγάλες διαφορές στον σχεδιασμό ακόμα και των γειτνιαζόντων κρατιδίων και δεν υπάρχει συνεργασία μεταξύ τους. Η εναρμόνιση των σχεδιαστικών πολιτικών των κρατιδίων της Αυστρίας είναι μια πρόκληση για το μέλλον. Παρόλα αυτά, οι δήμοι έχουν ως νομικό πλαίσιο που πρέπει να ακολουθήσουν το νόμο του κρατιδίου. Ακόμα συνεργάζονται αρκετά με τον ιδιωτικό τομέα ο οποίος δίνει επαγγελματικές υποδείξεις και εφαρμογές. Τέλος, υπάρχουν ομοσπονδιακές κατευθυντήριες οδηγίες για θέματα όπως η βιωσιμότητα, διατήρηση του αστικού περιβάλλοντος και η διατήρηση των φυσικών πόρων.

Ανακεφαλαιώνοντας, σε εθνικό επίπεδο, το σύνταγμα δεν ορίζει κάποιους συγκεκριμένους νόμους για την σχεδίαση του χώρου. Υπάρχει το Αυστριακό Συνέδριο για την Χωροταξία το οποίο ορίζει τις κατευθυντήριες γραμμές του σχεδιασμού αλλά δεν είναι νομικά υποχρεωτικές και έχει ως στόχο την εναρμόνιση των σχεδίων τόσο μεταξύ των κρατιδίων όσο και με την Ευρώπη. Τα υπόλοιπα όργανα του κράτους είναι η Καγκελαρία δίνει κίνητρα στα σχεδιαστικά όργανα, το υπουργείο μεταφορών και υποδομών υπεύθυνο για τις εθνικές οδούς, τα ποτάμια, τις σιδηροδρομικές γραμμές και τα αεροδρόμια, το υπουργείο οικονομικών το οποίο επιδοτεί διάφορα σχεδιαστικά προγράμματα όπως είναι η αναδόμηση παλιών βιομηχανικών περιοχών και τέλος το υπουργείο περιβάλλοντος, γεωργίας δασών και υδάτων . Ο περιβαλλοντικός νόμος της Αυστρίας που αφορά στην Εκτίμηση Περιβαλλοντικών Επιπτώσεων είναι ιδιαίτερα αυστηρός και καθορίζει ποιοι σχεδιασμοί μπορεί να γίνουν χωρις την Ε.Π.Ε. Ακόμα σηματνικός στόχος του υπουργείου είναι η διατήρηση των δασικών εκτάσεων που καλύπτουν μεγάλο μέρος της Αυστριακής επικράτειας. Τα ομοσπονδιακά κρατίδια θεσπίζουν τα νομικά πλαίσια που πρέπει να ακολουθηθούν από τους δήμους αλλά σχεδιάζουν και σχέδια ανάπτυξης της επαρχίας, της ευρύτερης περιφέρειας αλλα και τομεακά σχέδια για το κράτος. Τέλος, σε τοπικό επίπεδο, οι δήμοι ακολουθώντας το νομικό πλαίσιο που έχει θεσπιστεί από τα κράτη, αναλαμβάνει σχέδια τοπικής ανάπτυξης, ζωνών αλλα και οικοδομικά.

Η διοικητική οργάνωση του Αυστριακού κράτους δίνει μεγάλη αυτονομία στην τοπική αυτοδιοίκηση και έτσι τα τοπικιστικά στοιχεία της κάθε επαρχίας είναι εμφανή όχι μόνο στις συμπεριφορές των ανθρώπων, αλλά και στους ίδιους τους οικισμούς και τις πόλεις. Ακόμα, σημαντικό πρόβλημα έιναι ότι στο Σϋνταγμα δεν υπάρχει ορισμός της έννοιας του σχεδιασμού και έτσι ελλοχεύει ο κίνδυνος της μη εναρμόνισης των σχεδιαστικών πολιτικών των διάφορων δήμων μεταξύ τους καθώς και η συνεργασία μεταξύ τους έιναι σπάνια. Το ερώτημα είναι

μπορεί η Αυστρία, χωρίς την ύπαρξη μιας ολιστικής στρατηγικής και ενός υπουργείου χωροταξίας να ακολουθήσει της νέες τάσεις όπως η Βιωσιμότητα που πολλές φορές η εφαρμογή τους έιναι και καθοριστικής σημασίας;

Chapter 3: The Role of the Administrative Authorities in Austria[2]

3. 1 The formal government structure

Austria is a federal republic (Republik Österreich) that is combined by 9 federal states (Länder), including the federal state-city of Vienna. The public administration has three levels of territorial authorities and four levels of administrative authorities, that are divided as follow: i. Federal Government, ii. States (Läder), iii. Districts, iv. Municipalities. The main reason of the powers' separation is the cooperation among them. Every territorial authority has its own administrative apparatus. The Federal level is characterized by strict division of fields of responsibility; the members of the state government are responsible for tasks defined in the rules of procedure within the single state administration of the office of the state Government, while the Municipalities are independent territorial authorities with autonomous rights. Their sphere of activities is laid down in the constitution.

3.1.1 The Local Level

The local level contains 2359 Municipalities (Gemeinden) according to the "STATISTIK AUSTRIA" in 2012.(http://www.statistik.at/) .The head of the municipal administration is *the mayor* (Bürgermeister). In Vienna the mayor is elected by direct universal suffrage, but in some Länder, (s)he can be elected by the municipal council. The mayor manages the administration groups, and chairs the municipal council. The executive body of the municipality is the *local administrative board* (Gemeindevorstand). Members from different political parties, proportionally to the electoral result of each party, compose the board. The members are appointed by the members of the municipal council. In Vienna, as in every municipality in Austria, the administrative groups are part of its city administration. Each of them is headed by an Executive city Councilor. Services managed as by businesses as well as municipal enterprises proper are operated within the Administrative Groups. The administrative Groups currently established are:

[2] Source: Compedium 2010

"Integration, Women's issues,Consumers Protection and Personnel"

- M.D. 1 - General Personnel Affairs
- M.D.2 - Central Personnel Service for Public Service Regulations and Remuneration
- M.D. 3 - Occupational Safety and Health
- M.D.14 - Automated Electronic Data Processing, Information and Communication Technologies
- M.D.17 - Integration and Diversity
- M.D.26 - Data Protection and E-government
- M.D. 35 - Immigraation, Citizenship and Registry Offices
- M.D.38 -Food Safety Department
- M.D.54 - Procurement
- M.D.57 - Promotion and Co-ordination of Women's Issues
- M.D.59 - Food Inspection and Market Authority
- M.D.62 - Elections and Specific Legal Affairs
- M.D.63 - Commerce and Trade, Legal Aspects of Food Safety

"Finance, Economic Affairs and Vienna Public Utilities"

- M.D.5 - Financial Affairs
- M.D.6 - Accounting Services
- M.D.27 - EU-Strategy and Economic Development
- M.D.68 - Fire Services and Disaster Relief

"Education, Youth, Information, Sports"

- M.D.10 - Vienna Children's Day Care Centers
- M.D.11 - Youth and Family Offices
- M.D.13 - Education, Out-of-School Activities for Children and Young People
- M.D.44 - Municipal Swimming Pools
- M.D. 51 - Sports Office
- M.D.53 - Press and Information Service
- M.D.55 - Community Services
- M.D.56 - Vienna Scools

"Cultural Affairs and Science"

- M.D.7 - Cultural Affairs
- M.D.8 - Municipal and Provincial Archives of Vienna
- M.D.9 - Vienna City Library

"Public Health and Social Affairs"

- M.D.15 - Public Health and Social Welfare
- M.D.24 - Planning and Financial Management for Healthcare and Social Welfare
- M.D.70 - Ambulance and Patient Transport Service
- M.D.L - Matters Regarding the Vienna Health Board

"Urban Planning, Traffic and Transport, Climate Protection , Energy and Public Participation"

- M.D. 18 - Urban Development Planning
- M.D. 19 - Architecture and Urban Planning
- M.D. 21A - District Planning and Land Use (central West)
- M.D. 21B - District Planning and Land Use (South and Northeast)
- M.D.28 - Road Management and Construction
- M.D.29 - Bridge Construction and Foundation Engineering
- M.D. 33 - Public Lighting
- M.D.41 - Surveyors
- M.D.46 Traffic Management and Organisation
- M.D.65 - Legal Affairs: Traffic and Transport
- M.D.67 - Supervision of On-Street Parking

" Environment"

- M.D.22 - Environment Protection
- M.D. 31 - Water Management
- M.D. 36 - Inspection of Business Establishments, Electrical and Gas Equipment, Fire Prevention and Official Authorisation of Events
- M.D.42 - Parks and Gardens
- M.D.45 - Water Engineering
- M.D.48 - Waste Management, Street Cleaning and Vechile Fleet
- M.D.49 - Forestry Office and Urban Agriculture
- M.D.58 - Water Rights
- M.D.60 - Veterinary Board

"Housing, Housing Construction and urban Renewal"

- M.D.25 - Technical and Financial Assessement in Matters of Housing Construction and Promotion, Specialised Urban Renewal
- M.D.34 - Builiding and Facility Management
- M.D. 37 - Building Inspection
- M.D.39 - Research Center
- M.D.50 - Housing Promotion and Arbitation Board for Legal Housing Matters
- M.D.64 - Legal Affairs:Construction, Energy, Railways, Traffic and Aviation
- M.D.69 - Legal and Administrative Real Estate Matters
- Enterprise pursuant to Article 71 of the Vienna City Statutes: City of Vienna - Housing in Vienna

Table 3: The Administrative Groups *M.D.: Municipality Department*

The deliberative body of the municipality is *the municipal council* (Gemeinderat). Its members are elected by direct universal suffrage on the proportional representation system.

The structure of the City of Vienna administration is the following:

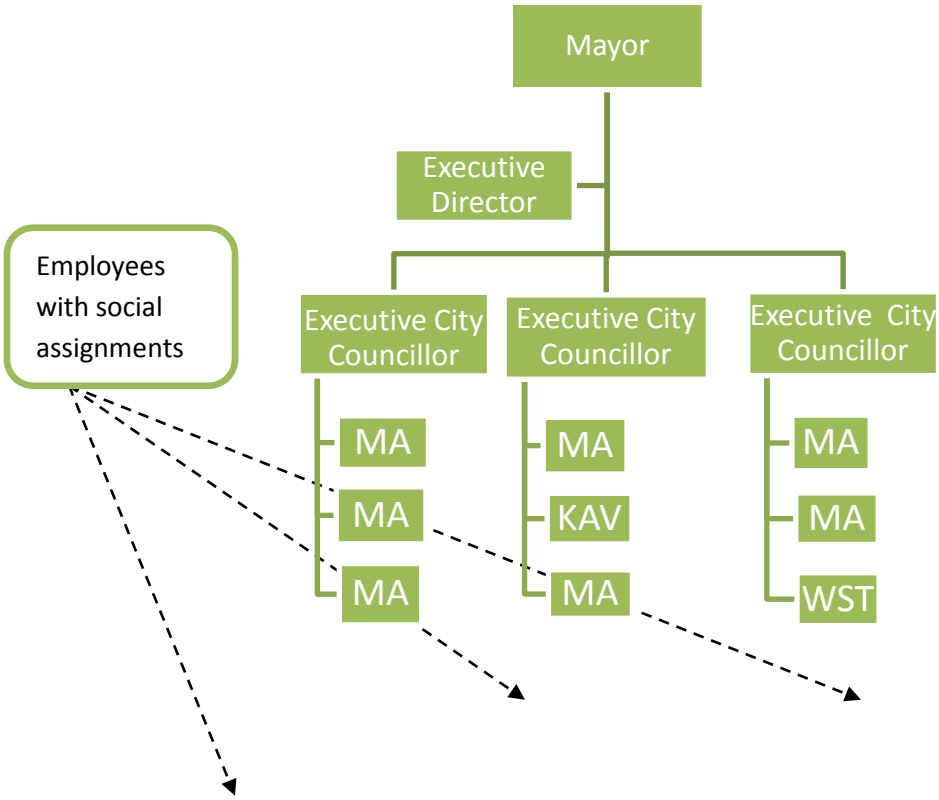


Figure 7: Vienna's Structure

The competences of the local government are:

- Social services
- Public order
- Urban planning
- Water
- Sewage

- Roads and Household refuse
- Urban transports

3.1.2 The Regional Level

3.1.2.1 Administrative level : 99 Districts (Bezirke)

The districts are administrative units headed by the district governor (Bezirkhauptmann) who is not elected by the people but appointed by the state. Vienna is combined by 23 Districts. The employees of the District are employees from the state. The administration has supervision duties over the municipalities. The supervised issues are : industrial plant license, school-, social-, spatial planning supervision-, road traffic regulation aspects and many others.

3.1.2.2 Administrative Level: 9 Regions/ States

Austria is combined by 9 regions/ states (Bundesländer). These have their own constitution as well as genuine legislative power for areas of relevance to the Land. The regional authorities are the regional parliament and the regional government. *The Regional parliament* (Landtag) is represented of members elected by direct universal suffrage. One of its duties is to appoint the governor and the regional governments. Some of its legislative competences are referring to the regional level while others demand the cooperation with the national parliament. The *Regional government* (Landesregierung) is the executive board of the region and is headed by the governor. The election system in Vienna is the proportional system in which almost each party is represented in the regional government. The *Governor* (Landeshauptmann) is elected by the regional parliament and his/her duty is the external representation of the State and chairing the sessions of the government.

The competences of the Regional authorities are

- Energy distribution
- State law and order
- Health
- Sport and Leisure
- The environment
- Transport

3.1.3 The National Level

3.1.3.1 The federal State

The Federal State is represented by the *President* (Bundespräsident), who is elected by direct universal suffrage. His main duties are representative ones. The main federal broad is the *National Council (*Nationalrat*)*, that is elected by the people and it consists 183 members. The members elect the *Chancellor* (Bundeskanzler), who builds his Cabinet (Bundesregierung) of several ministers and secretaries of state. Most of the times, one of these minister is the Vice Chancellor (Vizekanzler) as the chancellor's proxy. The *Federal Council* (Bunderstat) is appointed by the Regional Governments. Its power is more or less observational, meaning that it can accept federal laws or not. If not, the law has to be reconfirmed by the national council.

The competences of the National authorities are (partly shared with the states):

- Federal law
- Tax regulation, and tax re-distribution
- Defense and police
- Higher school and university system
- National power grid
- Railway, River and Air transportation

It is very important to mention that Vienna is a State-City so the competences of its government are both local and regional.

As far as is concerned the spatial planning, the power remains at the three main territorial level (national, regional and local). While the federal states set the frame for spatial planning, the executive and operative power of planning is with the local level. The 2.359 municipalities of Austria are responsible for developing and proceeding three binding planning documents for their respective area: local development perspectives, zoning plans and for built-up areas detailed plans. The Austrian Constitution gives all municipalities the right of self-government in planning their territory. (Austrian Constitution, Article 118) The federal states act as a controlling body but do not interfere in concrete planning processes. Besides some regional plans of the federal states, which still do not cover the full area of Austria, there are no binding instruments on higher tiers. To sum up, one can state a clear predominance of the local level

within the hierarchical system of spatial planning. Taking into account the size of an average Austrian the respective area of influence is often extremely small and administrative borders cut off functional relations. The hierarchical structure of the Austrian government is weak as long as each state and each ministry has its own responsibilities and sectorial and regional collaboration exists voluntarily. There is only little co-operation among agencies, departments and authorities and this fact causes problems of relationships among different levels. The EU-principle of "partnership" has been accommodated through the foundation of 25 regional development organizations in Austria that also receive some financial support from the office of the Federal Chancellor. They are no official bodies but a collaboration framework to improve the co-operation of regional actors (political and private), to develop bottom up development strategies in co-ordination with the national and regional level, and to promote regional key projects in consensus with the most relevant actors of the region. Theu do not have planning power. Planning co-operations are sometimes officially decided and administrated (and paid) by the Federal States.

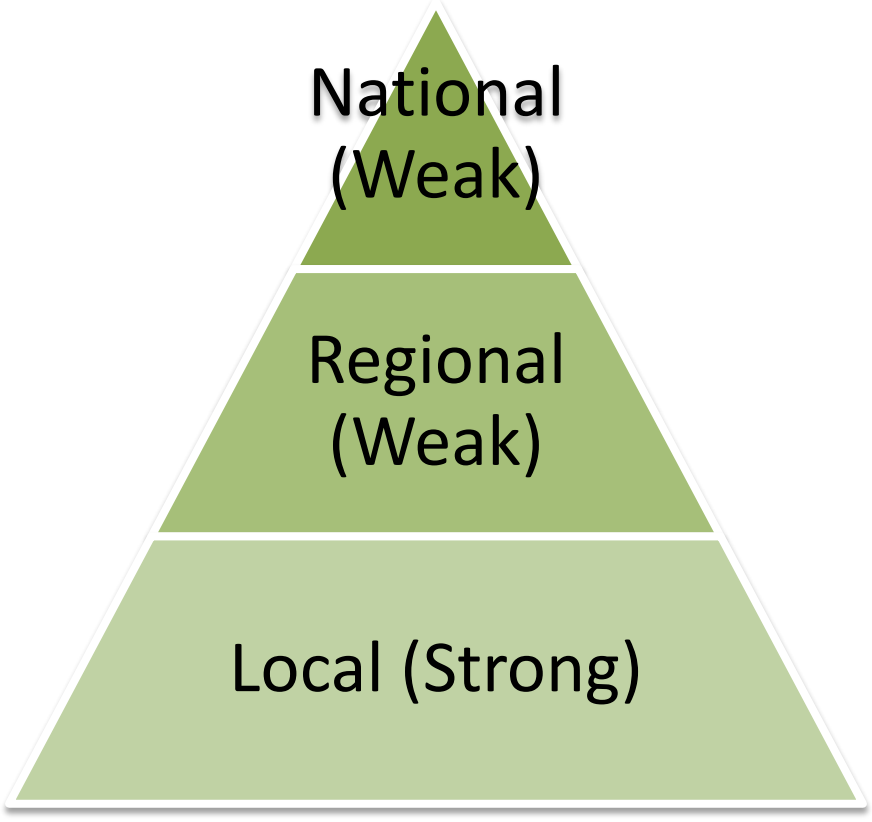


Figure 8: The hierarchical pyramid

3.2 The planning level

3.2.1 The land development

The spatial planning laws are passed at the level of the 9 states. That means that the state government can implement state/regional development plans as well as state/regional sectoral plans in varying numbers and of different natures. These contain objectives and determination of location for the corresponding state or parts of it. These plans represent the supra-local framework for the local spatial planning implementing by the municipalities. Moreover, these spatial planning laws specify the planning instruments of the municipalities. Also, another state's duty is to supervise the municipal planning and assist municipalities in their work. The municipalities are the bodies that control permissible land-use through the zoning plan. The zoning plan prescribes the permissible land use but there is no obligation specified to actually implement this use. The municipalities create a building regulation plan that determines the use of building land. Another autonomous task of the municipalities is the local spatial planning that is supervised and approved by the states according to the criteria of the spatial planning laws as well as the supra-local plans of the state. The actual instruments of implementation of the objectives of spatial planning are contained in building laws and the building permits must comply with the zoning. The main advantage of the local and supra-local planning is that the budget of the municipalities can be stabilized or even increased. Municipality's planners implement the zoning plans and further planning regulations as to attract new inhabitants or new companies' establishment. One certain reason refers to the federal tax. Most of the taxes in Austria are collected by the Federal states and then the money is re-distributed to the municipalities based mainly on population number; municipalities with large population number , receive a larger share of the federal budget.

3.2.2 Spatial Planning

Despite the fact that the Austrian planning belongs to the German family, it is considered to be very conservative and old-fashioned. As was mentioned above, the national level is almost missing from the spatial planning. It is mainly constrained to Sectoral Planning frameworks for establishing/extending the motorway, maintaining the railway network and the Danube River as ship transportation infrastructure. Also, the high voltage power grid network and mining site maintenance is also of national concern and may overrule local planning.

The local level of planning is the most serious and important level in Austria and plays a key role in spatial planning. The territorial authority controls the municipalities that are liable to

planning. The national government is responsible for many of the sectoral plans that in turn can influence the regional development in Austria. Beside this, the national level cannot outline any concrete planning concepts. It is noticeable that there is no ministry for spatial planning at the federal state. The national body concerning spatial planning is ÖROK (Österreichische Raumordnungskonferenz/ Austrian Conference on Spatial Planning) that was founded in 1971. It is an organization established by the federal government, the States and municipalities to coordinate spatial development at the national level. But, it turns that this organization is not that powerful and its function is more like a co-ordination platform. Though, one of its biggest achievements is the role that has played as the coordinating body between the internal and the European level since Austria's accession to the European Union. All of the intended resolutions have to be decided unanimously by all members of the 9 provinces and additional members from ministries. The problem that is created by this is that it is very difficult for the resolution to find an acceptable compromise. What the provinces do is to assume most of the planning responsibilities and regularities with their own regional legislation. As a result of this autonomous concept the legislation on spatial planning differs a lot from federal state to federal state. Another problem that arises by this random organization of spatial planning is that the co-ordination among the States is poor, thus the cooperation among the sovereign organizations and the harmonization of the development policy and spatial planning police is a future challenge for the country of Austria. On the other hand, this consolidated concept gives the municipalities the opportunity for self-government and regional development. The mayor acts like the building authority and on the same time, the municipalities not only guarantee an appropriate settlement but also financial welfare, attractive façade and surroundings, the protection of historic buildings and last but not least the traffic planning. The municipalities create the plans according to the regional legislation and since 1962 they have been autonomous on the subject of execution or orientation of planning even though they have to take into account national or regional interests such as the railway system and road network. Moreover, they work closely with the private planning sector that offers professional planning recommendations and applications. It is also absolutely essential to mention that despite the fact every regional government installed its own department for spatial planning; they share similar guidelines such as sustainability, control of spatial consumption land use, settlement and preservation of resources.

3.2.3 Plans on different levels , Policy instruments

The figure below shows which plans and policy instruments are implemented by which territorial authority.

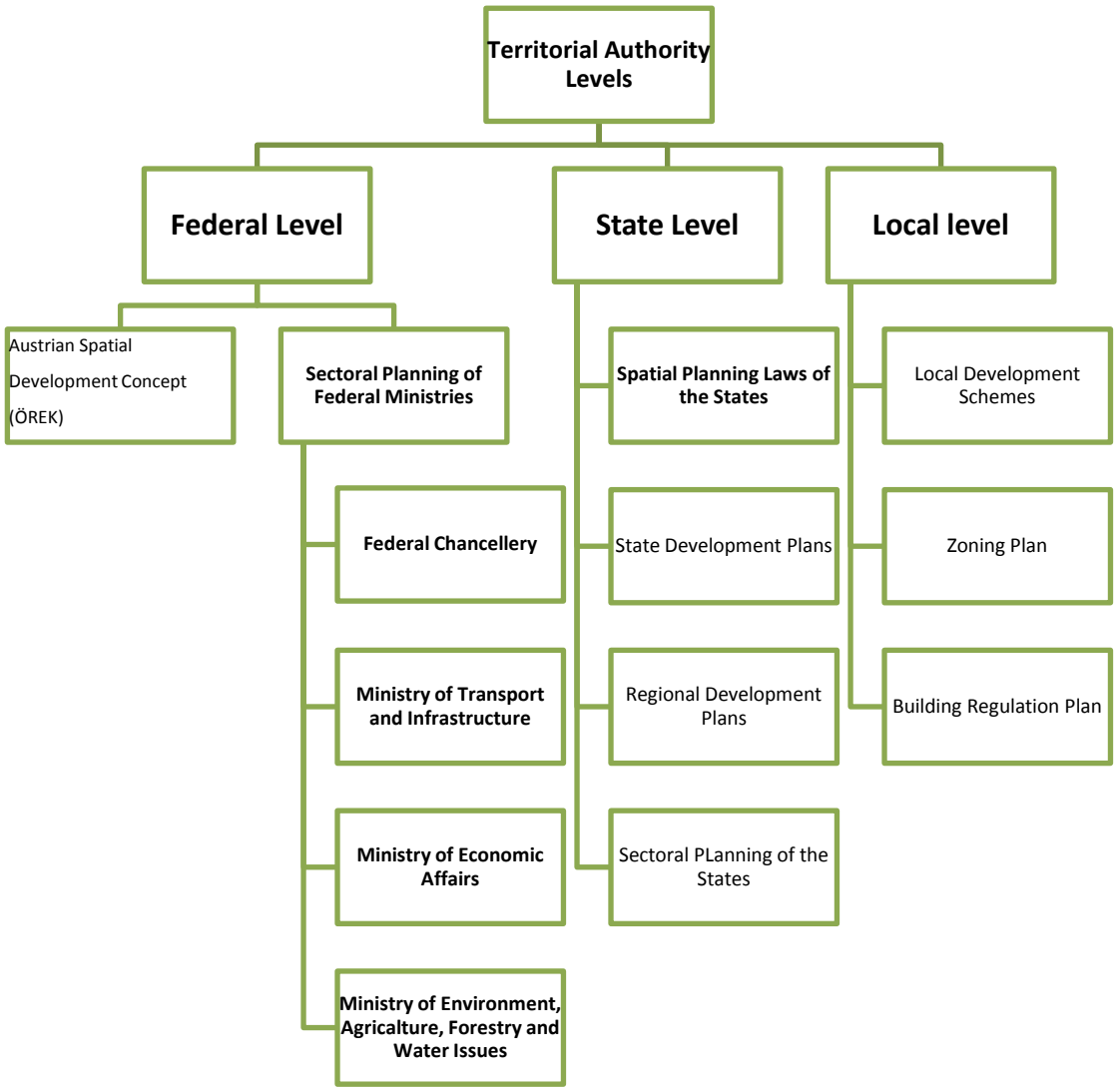


Figure 9 : Planning levels

- **Federal level**

1. Austrian Spatial Development Concept (ÖREK)

As it was mentioned above, the Austrian Spatial Development Concept is the national board of Spatial planning. It frames the guideline for all planning, but it is not legally binding. However it has been adopted by all planning and has the character of a politically self-imposed obligation. It contains descriptions of almost all the spatial problems in Austria from a national perspective, and at the same time goals for action in the medium-term, a catalogue of measures and harmonization among Europe.

2. Sectoral Planning of Federal Ministries

a) Federal Chancellery

It provides significant instruments at its disposal in the area of regional innovation incentives. One of the most important plans in the Scheme for the Promotion of Endogenous Regional Development that supports the use of consultancy services to overcome the lack of know-how and difficulties on the economic development of disadvantaged areas. Also, key-role plays the cooperation among the regions.

b) Ministry of Transport and Infrastructure

The ministry of transport and Infrastructure is responsible for all federal roads: expressways and national roads, motorways, rivers and airports. Motorway maintenance is observed by a state company, ASFINAG. Moreover, it is responsible for funding of innovation and research actions that have spatial impact.

c) Ministry of Economic Affairs

The main instrument that has an impact on the regional policy is the subsidy scheme Regional Innovation Bonus which is mutually funded by the Federal Government and 7 States. Its target is to subsidize financial renewal in old industrial areas and economic growth in peripheral rural areas.

d) Ministry of the Environment, Agriculture, forestry and Water Issues

The Federal Law for Environmental Impact Assessments is very strong and effective in Austria. It was passed in 1993 and came into force in July 1994. According to it, any construction project that is expected to have considerable effects on the environment must pass an environmental impact assessment. According to the minimum conditions required, the spatial planning can take place without the need of the E.I.A. The goal of spatial planning related to forestry is the maintenance of forests and their four functions: forestry (economic function), protection against flooding, avalanches and wind (protective function), the balancing effect on climate and waters (welfare function), and in particularly densely populated areas its important recreational function. A large proportion of forests are owned by the Austrian Federal Forests, but privately owned forests are also open to the public. The Forest Development Plan describes the functions of forest and improvement measures that can be taken. It works as a basis for decisions on forestry.

- **State Level**

1. Spatial Planning Laws of the States

Spatial planning in Austria started in 1956 by the highest court in Austria, thus most of the spatial laws were passed in the 60's. Since then, these laws have been amended and revised several times. Recently, in almost all states far-reaching modifications have been made, triggered by the expectations regarding increased settlement area demand. Most of the Laws contain standards on the general and specific goals of spatial planning. In the new versions these goals have been expanded to include the space-saving utilization of land, restrictions in second homes and measures for attracting building land to the market. The core of spatial planning laws is the determination of the planning instruments and their forms for the supra-local planning work carried out by the states and for the planning work of municipalities as well as the regulation of obligations and procedures.

2. State Development Plans

The plans that are mentioned in the spatial planning laws for the entire region are comprehensive in content and are issued by the state governments as official decrees.

3. Regional Development Plans

These plans are issued by the state governments in the form of decrees.

4. Sectoral Planning of the States

Spatial planning at the supra-local level by the state is established either by decree pursuant to spatial planning laws or by government resolutions.

- **Local Level**

The planning instruments that are involved in the spatial planning in the level of the municipality are defined in the spatial planning laws of the state.

1. Local development schemes

In many states, the state spatial law provides that a preparatory stage before zoning plan is binding and lays down the long-term development of the municipality.

2. Zoning Plan

The zoning plan determines the possible uses of properties. The procedures and the contents for them are different from state to state and they are laid down in the corresponding spatial planning laws. The binding decree comprises the plan and the written explanation. The plan is drawn up for the entire territory of the municipality and it divides the region into different land use categories such as building land, transportation zones and green belt.

3. Building Regulation Plan

It is indissoluble connected to the zoning plan and it is drawn up for building land shown in the zoning plan or parts of it. It is not drawn for the entire territory, but for selected areas of building land.

- **Other plans**

State development plans that are binding for the authorities themselves in implementing sectoral and regional planning for carrying out their supervisory functions over municipalities, and finally also for the municipalities' local spatial planning activities. The state development plans cover the entire territory of the states.

Regional Development Plans that are binding for spatial planning at local level by municipalities. Usually they refer to individual districts or to several district, they may also only be set up for part of districts.

Sectoral planning of the states that deal with spatial planning measures in a limited sector (for example shopping centers). They have different designations in the different states. The states may set up sectoral plans based on spatial planning laws for both the entire state as well as for individual regions.

3.2.4 Problems that are created in Spatial planning

One of the particularities of the Austrian Constitution is the federal structure of the administration which gives the local level a lot of autonomy, in a way that the strong provincial identities are still present, not only in the people's mind but also in the settlement and house structure. The citizens, many times are more connected to their province than their nation. Another special thing of the Constitution is that it does not specify the definition of spatial planning. The provinces/states have the core competence in planning legislation , but the main features of spatial planning are designed by the municipalities. Cooperation among the municipalities is rare. To sum up, we can say that the Austrian administrative system of spatial planning is rather an odd than an essential instrument for spatial policy

The question is if this system of administration can react with flexibility to the new trend and needs that appears, nowadays, very often. Does the lack of a central-national administrator, like a ministry of spatial planning for example, comprise a problem for the municipalities to adopt the new trends and appear at the same level of development?

It is quite obvious that there is not an Austrian, holistic strategy, but there are many separated ones. In addition, the law that refers to the buildings is different. There are some performances to unify the strategies and the laws, but, as it was mentioned above, the provinces in Austria are

allowed to make their own law by Constitution. In some cases it is observed that the governors of the provinces are very proud for their own regional-identity and they are not interested in following the Austrian law that is not legally binding. They are interested in working together in fact, but at the same time their voters are not that satisfied, so they choose not to. What is more, every law can get the level of Constitution that is decided by the 2/3 of the parliament, for example the number of taxes for shoes is at the level of Constitution! Also, another problem that is concerned is that there are laws of which only one paragraph is at the level of Constitution, creating confusing problems while trying to go through them. On the other hand, the city development plan is quite flexible because the principals and the goals that are settled are not legally binding but they can work as interpretation and implementation tools. The zoning-plans, and the building like before, are defined by the law, thus they are not the flexible but if there is a public interest in some changes, then the planning system reacts quite well. There are two strategies in planning, the one that is very stable, and does not react immediately to the new trends, and the very flexible one that may confuse the citizens, if you change the city development every year, which is against the law somehow.

More particular, Vienna participates in the planning association East. This is cooperation in Easter Austria, among Burgenland, Lower Austria and Vienna. That association is already exist since 1979 and its task is to coordinate especially traffic planning and spatial planning development.

Κεφάλαιο 4ο: Η περίπτωση της Βιέννης

Όπως αναφέρθηκε και προηγουμένως, η Βιέννη είναι ταυτόχρονα ομοσπονδιακό κρατίδιο και δήμος που σημαίνει ότι το διοικητικό της σώμα είναι υπεύθυνο για την θέσπιση των χωροταξικών νόμων, τα σχέδια ανάπτυξης του κρατιδίου και της ευρύτερης περιφέρειας αλλά και για τον τομεακό σχεδιασμό, τα σχέδια ζωνών και χρήσεων γης και τα οικοδομικά σχέδια για τα οποία υπεύθυνοι είναι η τοπική αυτοδιοίκηση και το δημοτικό συμβούλιο. Τα σχέδια εκπονούνται από τα αντίστοιχα τμήματα των δήμων όπως έχουν παρουσιαστεί και προηγουμένως με την υποστήριξη των ιδιωτικών γραφείων.

Το πρώτο πολεοδομικό masterplan έγινε το 1995 και τότε αποφσίστηκε πως ένα νέο καθολικό σχέδιο θα εκπονείται κάθε 10 χρόνια. Το πρώτο σχέδιο για τις μεταφορές έγινε το2003 αλλά όπως αποφασίστηκε, το 2015 το νέο σχέδιο θα περιέχει τοσο το μαστερπλαν για τις συγκοινωνίες όσο και για την χωροταξική ανάπτυξη. Ακόμα, η Βιέννη έχει πρωταγωνιστικό ρόλο στο σχέδιο CENTROPE το οποίο αναφέρεται στην ανάπτυξη της ευρύτερης περιοχής της Κεντρικής Ευρώπης. Εκτός αυτών πολλά άλλα σχέδια με στόχο την Αειφόρο Ανάπτυξη εκπονήθηκαν όπως αυτό για την συντήρηση των δασών, για τα φωτοβολταικά στις στέγες των σπιτιών, για την αναπαλαίωση παλιών κτιρίων και περιοχών καθώς και σχέδια για την χρήση φιλικών προς το περιβάλλον μέσων θέρμανσης.

4.1 Urban Development Plan Vienna 2005 (STEP05)

Ο νέος ρόλος της Βιέννης ως «της καρδία» της νέας Ευρώπης της έχει δημιουργήσει νέες προοπτικές αλλά και ευθύνες. Τα νέα σχέδια γίνονται με την προοπτική της Βιώσιμης Ανάπτυξης, της βιώσιμης κινητικότητας και της υψηλής ποιότητας ζωής. Οι αρχές του σχεδίου ανάπτυξης που εκπονήθηκε από το Δήμο της Βιέννης είναι οι εξής:

- Αειφορία
- Συμμετοχή των πολιτών στην λήψη αποφάσεων

- Gender mainstreaming
- Πολυπολιτισμικότητα
- Ποιότητα Ζωής των κατοίκων

Κύριος στόχος της δημιουργίας του συγκεκριμένου σχεδίου είναι η δημιουργία μίας πόλης βιώσιμης, ελκυστικές για τους κατοίκους αλλά και τους επισκέπτες, ασφαλούς, «έξυπνης» που να προωθεί ένα υγιές μοντέλο ζωής για τους κατοίκους. Οι πολεοδόμοι προσπαθούν να δημιουργήσουν ελκυστικές τοποθεσίες, να ενισχύσουν την χρήση καινοτόμων τεχνολογιών και υποδομών, να συμβάλλουν σημαντικά στην προστασία του περιβάλλοντος, φυσικού και τεχνητού και να δημιουργήσουν ευκαιρίες και κίνητρα για την μεταφορά νέων εταιριών στην ευρύτερη περιοχή. Ακόμα ιδιαίτερη έμφαση έχει δοθεί στην προστασία του φυσικού τοπίου του Δούναβη καθώς και της «Πράσινης Ζώνης» που περιβάλει την πόλη γιαυτο και έχει ήδη συμφωνηθεί συνεργασία με την επαρχεία της Κατω Αυστρίας. Ακόμα κρίσιμες ενέργειες πρέπει να γίνουν για την προώθηση των οικολογικών μέσων μεταφοράς στην πόλη, καθώς στα επόμενα χρόνια η υποβάθμιση του περιβάλλοντος που οφείλεται στα καυσαέρια των αυτοκινήτων θα γίνει ακόμα πιο έντονη. Το πιο σημαντικό όλων είναι η διατήρηση της υψηλής ποιότητας ζωής των κατοίκων και η πορσφορά ισότιμων ευκαιριών σε όλους ανεξαρτήτως καταγωγής, κοινωνικής θέσης, ηλικίας ή φύλου.

4.2 CENTROPE

Ένα από τα πιο σημαντικά σχέδια στα οποία συμμετέχει η πόλη της Βιέννης είναι το CETROPE (CENTral EuROPE) μαζί με τις πόλεις της Μπρατισλάβας, του Μπρνο, της Trnava, του Györ, του Sopron, του Eisenstadt και του St. Pölten.. Μετά την ένταξη νέων χωρών στην Ευρωπαική Ένωση, η Βιέννη μετατοπίστηκε από την άκρη της Δυτικής Ευρώπης στο κέντρο της. Έτσι νέες προκλήσεις και δυνατότητες δημιουργήθηκαν για το σχεδιαστικό επιτελείο του δήμου. Πρωταρχική μέριμνα δόθηκε στην συνεργασία της Βιέννης με τις επαρχίες της Κάτω Αυστρίας και του Burgenland για την δημιουργία μιας ευρύτερης αυστριακής ανταγωνιστικής περιφέρειας. Η συνεργασία μεταξύ τους θα βοηθήσει στην εναρμόνιση των σχεδιαστικών τους οργάνων και αποφάσεων και θα οδηγήσει στην δημιουργία ελκυστικών περιφερειακών περιοχών τόσο για κατοικία όσο και για προσέλκυση οικονομικών συμφερόντων.

Ο πιο σημαντικός στόχος του σχεδίου CETROPE είναι η οικονομική ανάπτυξη της περιοχής της Κεντρικής Ευρώπης πάντα με οδηγό την Αειφορία. Σημαντικό ρόλο επίσης πάιζει και η γειτνίαση 2 ευρωπαικών πρωτευουσων, της Βιέννης και της Μπρατισλάβας, αφου απέχουν μόλις 60 χμ μεταξύ τους και έτσι τα οφέλη που μπορούν να απολάυσουν και οι δύο πόλεις είναι μεγάλα. Αρχικά, διεύρυνση των υποδομών για τις μεταφορές αγαθών, υπηρεσιών και ατόμων που συνδέουν τις 2 πόλεις τόσο επίγειες όσο και εναέριες και ποτάμιες. Σημαντική είναι και η προοπτική αναβάθμισης των επιχειρηματικών περιοχών ώστε να γίνουν ανταγωνιστικές σε ευρωπαϊκό και παγκόσμιο επίπεδο καθώς και η προσφορά εργασίας και στις δύο πλευρές. Σημαντικό κομμάτι ιδιάιτερα στον οικονομικό πυλώνα της Αειφορίας παίζει και η δημιουργία αποθηκών (Logistics) στην περιοχή κάνοντας έτσι ιδιαίτερα ανταγωνιστική έναντι σε άλλες περιοχές παραγωγής. Ιδιαίτερη είναι όμως και η συμβολή του προγράμματος την περιβαλλοντική ανάπτυξη της περιοχής με την διατήρηση των πολύμορφων φυσικών τοπίων και τη δημιουργία ενός «Πράσινου Κέντρου» ανάμεσα στις 2 πόλεις. Τέλος σημαντική είναι και η διατήρηση των Βιεννέζικων Δασών, των Μικρών Καρπαθίων και του Δούναβη.

4.2.1 Στόχοι και Στρατηγικές

- Αστική ανάπτυξη σε περιοχές με προοπτικές οικονομικής ανάπτυξης που θα προσφέρουν πολλά πλεονεκτήματα για την πόλη
- Διεύρυνση των υποδομών για τις μεταφορές , ειδικότερα σε αυτές που σχετίζονται με την σύνδεση των κέντρων των πόλεων
- Ανάπτυξη των κομβικών σημείων ώστε να γίνουν χώροι ίδρυσης νέων επιχειρήσεων
- Συνεργασία μεταξύ των γειτνιαζόντων περιοχών για την δημιουργία κοινών σχεδιαστικών προτάσεων

Οι βασικές αρχές του σχεδιασμού είναι οι εξής:

- Δημιουργία οικισμών με σκοπό την «συγκεντρωτική αποκέντρωση»
- Ανάπτυξη των υποδομών των κομβικών σημείων της περιφέρειας
- Συγκέντρωση των επιχειρήσεων σε αυτά τα κομβικά σημεία και δημιουργία περιοχών με μεικτές χρήσεις γης για την καλύτερη αξιοποίηση του χώρου και των συγκοινωνιών
- Συγκέντρωση των επιχειρήσεων στα προάστια της Βιέννης με την βοήθεια στον σχεδιασμό από της τοπικές διοικήσεις αλλά ταυτόχρονα αποφυγή της

υποβάθμισης του φυσικού τοπίου αλλά και σε περιοχές με αναπτυγμένο σύστημα συγκοινωνιών

- Αποφυγή χωροθέτησης οικισμών κοντά στου δρόμου ταχείας κυκλοφορίας ώστε να αποφευχθεί επιπρόσθετη συμφόρηση στους δρόμους
- Οριοθέτηση των οικισμών
- Διατήρηση κοινόχρηστων χώρων και χώρων πρασίνου στους οικισμούς
- Σταδιακή ανάμιξη των χρήσεων γης και δημιουργία των απαιτούμενων χώρων πρασίνου για κάθε σπίτι

4.3 Σχέδιο μεταφορών και Συγκοινωνιών

Το 1994 ο Δήμος της Βιέννης εξέδωσε το πρώτο Masterplan για τις μεταφορές και τις συγκοινωνίες το οποίο αφορούσε κυρίως σε μέτρα για τις θέσεις στάθμευσης, την διεύρυνση του υπόγειου συστήματος συγκοινωνιών και την προώθηση της χρήσης του ποδηλάτου. Μετά τις χωρικές και πολιτικές αλλαγές τον Ευρωπαικό χώρο, η δημιουργία ενός νέου σχεδίου που να ανταποκρίνεται στα νέα δεδομένα ήταν απαραίτητη. Για τη δημιουργία του σχεδίου ζητήθηκε και η γνώμη των κατοίκων, τον οποίων το 80% των προτάσεών τους χρησιμοποιήθηκε κατά την εκπόνηση του σχεδίου. Κρίσιμα ζητήματα για τον σχεδιασμό ήταν η διεύρυνση του σιδηροδρομικού και οδικού δικτύου, καθώς και η δημιουργία ενός κεντρικού σταθμού στην Βιέννη ο οποίος θα είναι και κεντρικός σταθμός στην Ευρώπη. Φυσικά, στην κορυφή της σχεδιαστικής ατζέντας ήταν και η συνεργασία της πόλης με την ευρύτερη περιφέρεια στα πλαίσια του CENTROPE. Μία ακόμα πρόκληση για τους σχεδιαστές ήταν η δημιουργία ενός Πανευρωπαϊκού συγκοινωνιακού δικτύου με σιδηροδρομικές συνδέσεις που περνούν από τη Βιέννη με τελικούς σταθμού Παρίσι- Μόναχο- Βιέννη- Βουδαπέστη αλλα και Βερολίνο- Πράγα- Τεργέστη, και οδικές συνδέσεις προς την Μπρατισλάβα. Ακόμα, σημαντική είναι η ομαλή αποκρατικοποίηση κάποιων Δημόσιων Μέσων Μεταφοράς που όμως για να γίνει πρέπει να εγκριθέι από την ανώτατη δικαστική αρχή και φυσικά υπάρχουν και αντίστοιχες εξαιρέσεις. Η αρμοδιότητα για τις υποδομές των μεταφορών σε αυτό το επίπεδο ανήκουν στην ομοσπονδιακή κυβέρνηση. Μεγάλης κρισιμότητας είναι και η προσπάθεια εναρμόνισης του συγκοινωνιακού δικτύου με τον πολεοδομικό σχεδιασμό. Κρίνεται απαραίτητη η ταυτόχρονη

σχεδίαση επαρκούς συγκοινωνιακού δικτύου με την αστική ανάπτυξη του οικισμού, όπως έγινε και στην περίπτωση της Ασπερν που αναλύεται στη συνέχεια.

Μεγάλη σημασία έχει δοθεί επίσης και στον τομέα της Βιώσιμης Κινητικότητας και στον καθοριστικό της ρόλο στην Αειφόρο ανάπτυξη. Κύριοι παράγοντες αυτής είναι¨

- η Αειφορία
- η χρήση τεχνολογικών καινοτομιών,
- η συνεργασία
- η αποδοχή
- η αποτελεσματικότητα

Τέλος είναι κοινώς αποδεκτό ότι ένας οικισμός με μικτές χρήσεις γης, οι φιλικοί προς το περιβάλλον τρόποι μετακίνησης είναι πιο αποδεκτοί από τους κατοίκους.

Οι προτεραιότητες που δόθηκαν στον σχεδιασμό στο δρόμο έιναι οι εξής:

- Τήρηση των σχεδιαστικών προδιαγραφών για τα πεζοδρόμια
- Ελκυστικότητα των μέσων μαζικής μεταφοράς
- Ενθάρρυνση της κίνησης με ποδήλατο
- Αποθάρρυνση της χρήσης ΙΧ
- Ρυθμίσεις στάθμευσης

Ταυτόχρονα, στο σχέδιο για τις μεταφορές θίγονται και τα άλλα μέσα μεταφοράς όπως είναι οι ποτάμιες μεταφορές μέσω του Δούναβη, όπου γίνεται προσπάθεια για την οικολογικής του αναβάθμιση αλλά και για την ανάδειξη της καθοριστικής του οικονομοπολιτική σημασίας και τις εναέριες με την ανάδειξη της ελκυστικότητας του Διεθνούς αερολιμένα της Βιέννης και της σύνδεσής του με τα κέντρα της Βιέννης και της Μπρατισλάβας.

4.4 Διαχείριση Αποβλήτων

Ένα ακόμα «βραβείο» που έχει απονεμηθεί στην πόλη της Βιέννης έιναι αυτό της «Πόλης με την περισσότερο βιώσιμη διαχείριση αποβλήτων». Η νομοθεσία για τη διαχείριση των αποβλήτων είναι αρμοδιότητα του κρατιδίου σε συνεργασία με τους επιμέρους δήμους. Στην

Βιέννη, κάθε 5 χρόνια το αρμόδιο τμήμα του δήμου φτιάχνει ένα νέα σχέδιο διαχείρισης αποβλήτων. Από το 2006 και μετά το σχέδιο αυτό πρέπει να υποβληθεί σε Εκτίμηση Περιβαλλοντικών Επιπτώσεων έτσι ώστε ακόμα από το στάδιο της σχεδίασης να προλαμβάνονται οι περιβαλλοντικές επιπτώσεις του σχεδιασμού. Το 2007 το σχέδιο έγινε κατά τη διάρκεια μιας Στρατηγικής Περιβαλλοντικής Εκτίμησης με την συμμετοχή περιβαλλοντικών οργανώσεων, ειδικών στην διαχείριση αποβλήτων και κοινωνιολόγων. Το σύστημα που παρατηρείται περισσότερο στην Βιέννη είναι το σύστημα της αυτόνομης συλλογής αποβλήτων. Πολύ σημαντική πρακτική στον τομέα της διαχείρισης, είναι η χρησιμοποίηση των αποβλήτων στην δημιουργία μορφών ενέργειας όπως είναι η ηλεκτρική και η θερμική.

4.5 Χώροι Πρασίνου και Δάση

Οι χώροι πρασίνου της Βιέννης καλύπτουν περίπου 200τετραγωνικά χιλιόμετρα. Το μεγαλύτερο ποσοστό ανήκει στην «Πράσινη Ζώνη», σε κήπους και πάρκα. Η πιο σημαντική τακτική που ακολουθείται από την σχεδιαστική ομάδα είναι ο ορισμός των ζωνών πρασίνου και φαίνονται τόσο στο σχέδιο ανάπτυξης όσο και στο σχέδιο ζωνών και χρήσεων γης με πιο σημαντικές επισημάνσεις τις περιοχές της «Πράσινης Ζώνης» και των «περιοχών με προστασίας φυσικού τοπίου» . Η διοίκηση της Βιέννης από το 2004 μέχρι σήμερα έχει αγοράσει περίπου 1.400.000 τετραγωνικά μέτρα πρασίνου συμπεριλαμβανομένων δασικών εκτάσεων και περιοχών προστασίας. Η «αναγέννηση» της αυστριακής πρωτεύουσας στην αρχή της νέας χιλιετίας απαιτεί την δημιουργία περισσότερων πράσινων χώρων και πάρκων για αναψυχή και άλλες δραστηριότητες των κατοίκων. Ακόμα σε προσπάθεια ευαισθητοποίησης των κατοίκων σε περιβαλλοντικά ζητήματα, έχουν δημιουργηθεί προγράμματα αναδάσωσης, δημιουργίας φωλιών και αλλά για τους νέους, αλλά δόθηκαν και χρηματικά κίνητρα στους πολίτες για την διακόσμηση των αυλών τους. Ακόμα δημιουργήθηκαν νέες προστατευόμενες περιοχές κυρίως στα παράλια του Δούναβη. Ακόμα έγινε η χαρτογράφηση των προστατευόμενων περιοχών. Επίσης, πολύ σημαντική για την περιοχή της Βιέννη είναι και η «Πράσινη Ζώνη» η οποία το 2005 γιόρτασε τα 100 της χρόνια όταν και εκδόθηκαν νέα σχέδια για την προστασία και την σημαντικότητα της καθώς και για την διεύρυνσή της. Κύρια μέριμνα των σχεδιαστών ήταν οι πεζοί να προτιμούν να περπατάνε στους ελεύθερους πράσινους χώρους όταν θέλουν να πάνε σε κάποιο προορισμό αντί να χρησιμοποιούν μηχανοκίνητα μέσα.

Τέλος, στις αρχές του 2012 ψηφίστηκε νέος νόμος για την διαχείριση των δασικών εκτάσεων οι οποίες αποτελούν το 18% της έκτασης της Βιέννης. Σε αυτό καθορίζονται και τα νέα σχέδια που πρέπει να γίνουν για την προστασία των δασών όπως είναι σχέδια για την δασική ανάπτυξη, Δασικά πλάνα, πλάνα προστατευόμενων περιοχών αλλά και χαρτογράφηση όλων των δασικών εκτάσεων. Αποφασίστηκε επίσης και η δημιουργία σχεδίων για την προστασία των δασών κάθε 10 χρόνια. Συνοψίζοντας, σημαντική είναι η έντονη προστασία των δασών και η δημιουργία σχεδίων με αντίστοιχους χάρτες για τον έλεγχο της δόμησης κοντά σε δασικές περιοχές.

4.6 Στέγαση και Οικοδομικοί Κανονισμοί

Η νέα τάση για την αστική ανάπτυξη είναι η δημιουργία «Έξυπνων Πόλεων» (Smart City) και η Βιέννη ήδη είναι πρωτεργάτης της νέας τάσης. Αυτή έχει μεγάλες επιπτώσεις στην σύνταξη του οικοδομικού κανονισμού καθώς απαιτεί υψηλές πυκνότητες, μικτές χρήσεις γης, «πράσινα κτίρια» και χρήση φωτοβολταικών. Η πιο σημαντική αρχή που ασχολείται με την εκπόνηση των κατασκευαστικών σχεδίων είναι ο Δήμος. Στη συνέχεια εγκρίνονται από τον δήμαρχο, την αντίστοιχη δημοτική αρχή και τέλος από το δημοτικό συμβούλιο. Η άδεια κτιρίου είναι υποχρεωτική για όλες τις νέες κατασκευές. Μία ακόμα πρόκληση για την πόλη της Βιέννης είναι η αύξηση των κατοίκων στις πόλεις, ειδικά κατά τη διάρκεια της προηγούμενης δεκαετίας. Προσπάθειες γίνονται για τη δόμηση ενός νέου αστικού περιβάλλοντος με σκοπό την προσέλκυση νέων κατοίκων. Πιο συγκεκριμένα:

- Ποικιλία στου τύπους κατοικίας θα κάνει την Βιέννη ελκυστικό χώρο κατοικίας
- Ισορροπία μεταξύ προσφοράς και ζήτησης θα κάνει τις τιμές των κτιρίων, ακόμα και των ιστορικών, πιο ελκυστικές
- Αναδόμηση της πόλης καθώς και επέκταση και ανάπτυξή της πρέπει να γίνονται ταυτόχρονα με τις απαραίτητες αλλαγές στο σχεδιασμό κατοικίας.
- Μεικτές χρήσης γης για κατοικία και ανάπτυξη της οικονομίας με την χωροθέτηση του ελάχιστου μεριδίου οικιστικών μονάδων
- Οι κατασκευές κατοικιών δημιουργούν νέες θέσεις εργασίας για το άμεσο μέλλον.

Μία ακόμα τάση της οποίας ηγείται η πόλη της Βιέννης είναι η «Compact City». Στην Βιέννη έχουν θεσπιστεί 3 κατηγορίες πυκνοτήτων:

- Περιοχές με πολυώροφα κτίρια με τουλάχιστον 3 ή 4 ορόφους για την πυκνοδομημένη αστική περιοχή ενώ για κεντρικές περιοχές με ικανοποιητικό συγκοινωνιακό δίκτυο κοντά τους η πυκνότητα κτιρίων είναι μεγαλύτερη
- Η δεύτερη κατηγορία αφορά σε κεντρικούς άξονες που γειτνιάζουν με περιοχές με μεγάλη πυκνότητα και εξυπηρετούνται από την δημόσια συγκοινωνία. Η πυκνότητα που της χαρακτηρίζει είναι μετρίου μεγέθους
- Η Τρίτη κατηγορία αφορά περιοχές με μικρή πυκνότητα κτιρίων. Στην περιοχή αυτή σχεδιάζονται μεγάλες επιφάνειες ελευθέρων χώρων πρασίνου με μονοκατοικίες κυρίως σε περιοχές κοντά σε φυσικά τοπία

Chapter 4: The Case of Vienna

4.1 Spatial and Regional Planning

As it was mentioned in the previous chapter of this thesis, Vienna is a State and a Municipality at the same time. That means that Vienna's administrative authority is responsible for the spatial planning laws that stand in Vienna, the state development plans, the regional development plans, the sectoral plan, and the local development schemes, the zoning plans and the building regulation plans. The responsibility for the plans is on the city administration and city council. The plans are made in the relevant Municipality Departments but they are supported by some private companies in fields like the layouts, the stocktaking and the professional texts. The Administrative group that works on Spatial Planning is the "Urban Planning, Traffic and Transport, Climate Protection , Energy and Public Participation" that is consist of the following Municipal Departments:

- M.D. 18 - Urban Development Planning
- M.D. 19 - Architecture and Urban Planning
- M.D. 21A - District Planning and Land Use (central West)
- M.D. 21B - District Planning and Land Use (South and Northeast)
- M.D.28 - Road Management and Construction
- M.D.29 - Bridge Construction and Foundation Engineering
- M.D. 33 - Public Lighting
- M.D.41 - Surveyors
- M.D.46 Traffic Management and Organization
- M.D.65 - Legal Affairs: Traffic and Transport
- M.D.67 - Supervision of On-Street Parking

The group planning is the following:

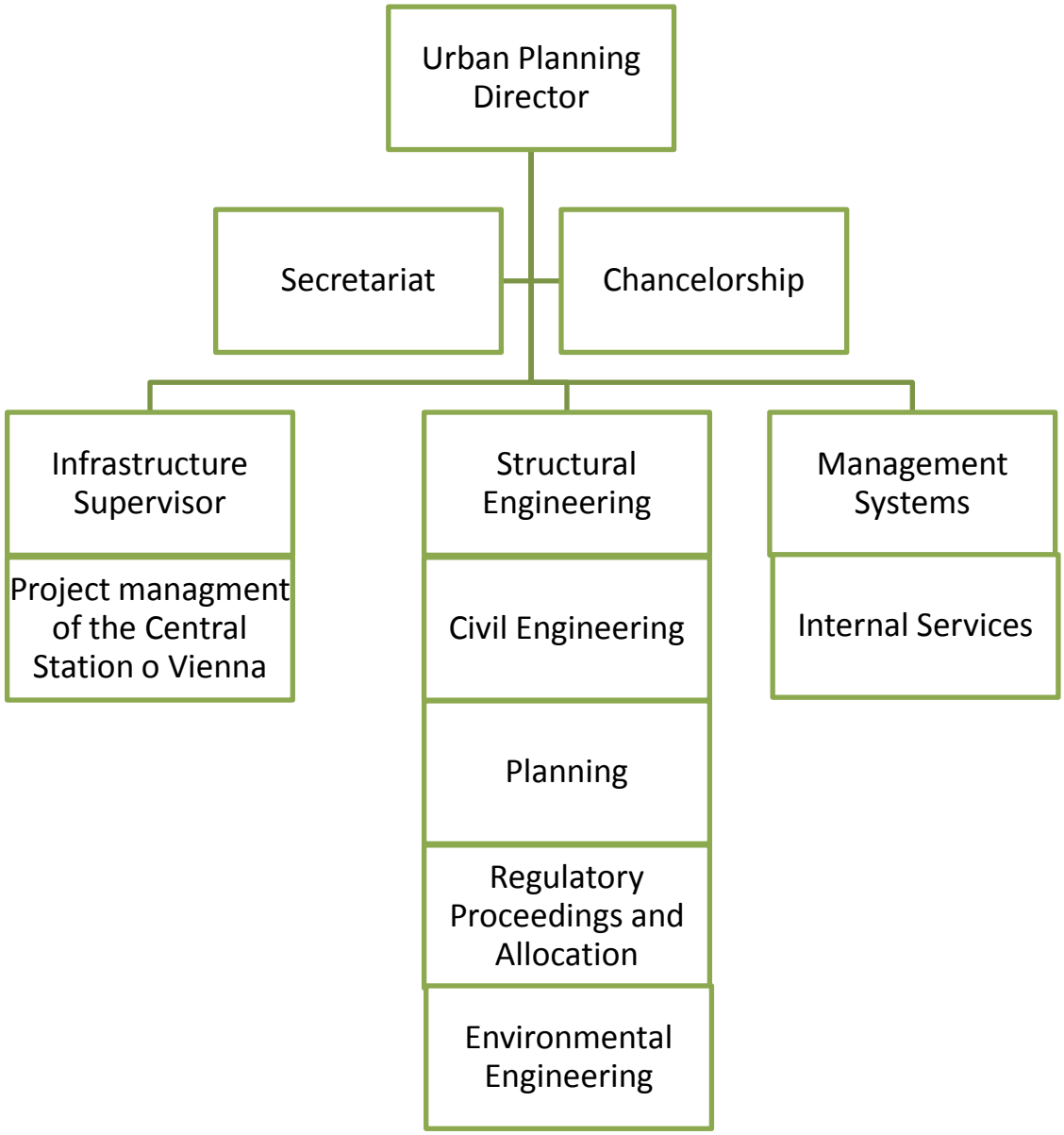


Figure 10: the planning group

In 1993, Vienna came forward with a new urban development plan and a traffic concept and in 1995 with the Urban development plan 95 (the STEP95). It was decided that those plans will be implemented every 10 years. So there was another "traffic plan" in 2003 and a STEP05 in 2005. It is also decided that the following traffic masterplan and the following urban development plan will be published at the same time (in 2015). Also, the new background that Vienna faced after the incorporation in European Union of Slovakia, Hungary and Czech Republic, demanded a corporation of those four-neighboring-countries that happened by the publishing of the CENTROPE plan (Central European Region). All of those plans were made in support of sustainable development and they will be presented analytically. Furthermore, there are many other plans that are implemented in support of the sustainability, the intelligent mobility and the harmonization with the international regulations, such as Forest development Plan, Agenda21, solar-panel plans, revitalization of villages plans and plans for using friendly means of heating.

4.1.1 Urban Development Plan Vienna 2005 (STEP05)

Vienna plays a key role in Europe of new century as it is located in the center of the continent after the accession of twelve new member states. This fact is estimated by the government of Vienna both as an opportunity and a challenge for the city. New demographic developments, economic requirements and the need of transport infrastructure are some of the new challenges for Vienna. The further development of the city has to be implemented in support of sustainability, intelligent mobility, high quality of life, high social standards and to respond flexibly towards the new trends. These are some of the goals that are contained in the new Urban Development Plan (STEP05). The questions that were brought up in discussion before the publishing of STEP05, concerning the new role of Vienna as the metropolis of Southern-central Europe are:

Figure 15: European Union
Source:http://en.wikipedia.org/wiki/Enlargement 1

- What type of economy and which regional requirements are able to face the new role-challenge?

- What about the expected population growth and from where it will come?
- How will the growing demands for housing affect the living conditions and the quality of life?
- Which infrastructure projects will be in priority and how will they create impulses for urban development?
- How will the objectives of preserving the quality of life and natural resources and development needs be met?
- How can the already existing built-up areas be adapted to meet the new challenges and quality demands to keep the pressure for new settlement construction as low as possible?

4.1.1.1 The principles of STEP05

The Urban Development Plan is a tool used in urban planning and urban development and defines in general terms the further orderly expansion of the city. It assigns the distribution of building-land and green-land. It also outlines the development areas and specifies their relationship to the overall transport infrastructure. It is very important to mention that not only experts were involved in preparing the basic documents, but everybody in Vienna was invited to contribute ideas. It is based on an already extensively, available, detailed target-system such as the climate protection program of the city of Vienna (KIIP Wien), the Urban development plan 94 (TAP-DANCE 94), the green belt Vienna 95, the traffic masterplan of Vienna 03 (MVP 03) and the strategy plan of 2004 and others. STEP 05 is founded on a broad-basis dialogue and discussion process in which all groups that determine the future city were represented. That means that the citizens of Vienna and the metropolitan region, the investors, the developers, the administration officials and the urban policy bodies were involved in formatting this project. However, the plans that are described in it are not legally binding but they are very useful for the planners. Last but not least, it shows the spatial-functional relationships between the city and the region. The main principals of this project are: sustainability, participation, gender mainstreaming, diversity and quality of living.

a. Sustainability

Sustainability's principal, according to the Brundtland- Report, *is to make a development possible that meets the needs of today's generation without restricting the development opportunities of future generation.* This requires an integrative consideration of economic, environmental and social requirements. The idea of sustainability can be described in the following figure.

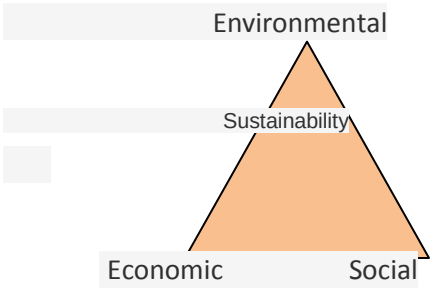


Figure 11: Sustainability

Analyzing the three dimensions of the sustainable development:

- Environmental:

  it is about the environmental harmless use of the natural resources, the improvement of the quality of the environment, the protection of biological variety as well as the risk that the avoidance of the people may bear.

- Economic:

  the aim of this pillar of the sustainability is the creation of a future constant economizing system, the economic efficiency, and the innovation competence. Also the increasing of full employment and social security ensure and the compensation guaranteeing for the generations.

- Social:

  this dimension contains aim of the social justice, as well as the participation of everyone social relevant in groups of the political and social life.

The urban development in support of sustainable development requires the coordination to support the spatial claims of these three pillars. For putting the principles of sustainability into action, in 1992 the international state community in Rio decided on the Agenda 21. Besides measures on an international level, the local level is emphasized. The towns and the municipalities were cheered up by the initiation of "Local Agenda 21 Process" (LA 21) the aim of which is the support of a lasting municipal development.

Another very important aspect of sustainability is the Climate protection. A number of international guidelines demand the diminution of the atmospheric pollutants. Austria has signed the Kyoto protocol engaging to reduce the greenhouse gas emissions by 13% below the value of 1990 in 2010. The municipality of Vienna decreed the “Climate Protection Program of the City of Vienna” (KliP Wien) in 1999, providing the diminution of the annual CO2 emissions on a level of 14% below the value of 1990. The KliP Wien contains 36 programs for action towards this mission, the reduction of the air emissions of harmful substances including the action program “NextSTEP”. It also contains new methods and measures in the level of town planning, which are the creation of structures to avoid traffic for example. Additional measures are, from the perspective of climate protection, design consideration to include all energy efficiency (e.g. promotion of energy saving designs, promotion of renewable energy and district heating, etc). the development of the city of Vienna aligns its policies, in accordance to the requirements of the climate protection and the proposals of STEP 05. Another important measure in support of sustainable development is the network Nature. The network Nature conducts on more legal base the necessary development of the conservative law and putting into action oriented planning. the program connects local needs with general conservation aims and includes a priority list with the development of local aims and measures.

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Environmental Sustainability

- **Ground**: Getting and safeguarding fertility, managing ground carefully, conserving the ground resource economically (ground politics) and checking uncontrolled urban spread and area sealing
- **Water**: Checking flowing water quality and supply, precipitation manage, protection of ground-water from pollution
- **Air**: zero air-emission with the correspondence of temperature and humidity
- **Landscape**: Understanding and developing landscape as experience and relaxation region, culture , meeting and orientation region, minimizing landscape consumption , safeguarding and developing bio diversity and instituting conservation measures.

Economical Sustainability

- **Residence:** Satisfaction of the different needs of the citizens, protecting supply resources, promoting urban development, maximize living environment's attractiveness, ecological building, energy consumption
- **Economy and Work**: Receiving and managing occupation, making entrance possible for all men and women, building up circulation economies, improving regional cooperation, establishing local economy power
- **Mobility**: Guaranteeing and improving regional accessibility, exchanging goods, services and social contacts, developing short routes in the town to avoid forced highways, pushing environmental combine, reducing the use of private cars, noise reduction, broad access to the information and telecommunication infrastructure
- **Supplying and Disposal**: Promoting environmental , climatic and renewable sources of energy, minimizing energy consumption, avoidance of greenhouse gases and atmospheric pollutants, minimizing the energy consumption of building s, ensuring supply's safety, avoid waste, recycle

Social Sustainability

- **Health System:** Enable the fulfilment of the basic needs, increase social protection og the public interest, ensuring quality of life and access to the supply of facilities of public interest, unrestricting economic and cultural differences, accompanying the process of ageing in dignity, ensuring the preparedness and social security
- **Education and Science:** Development of intellectual resources, strengthen the knowledge of regional centers and local factors, supporting cooperation and cluster formations, access to information for everyone
- **Art and Culture:** providing resources for further development of the art, promoting variety of different social cultures in the town as an expression of multicultural environment
- **Social participation-Diversity**: participation of all female citizens in the social life, equal opportunities for everybody, elimination of stigmatization of population's sections, promoting integration, elimination of poverty
- **Gender Mainstreaming:** equal opportunities for men and women in public affairs, participation in social and economic life
- **Participation**: Participation of all the citizens, using the creative potential of the population as a supplement to representative democracy
- **Urban Features and Identity**: Creates exclusivity and cultural points of reference, introduces differences in urban features, improving quality of life, aesthetic development

Table 4: Sustainability

b. Participation

The participation of the citizens and using the entire creative potential of the population as a supplement to representative democracy are the main goals of political participation. The Kyoto report, some EU guidelines such as strategic environmental impact assessment and international conventions like Agenda 21 give the guidelines for the participation processes at the local level. More particularly, the Chapter 28 of Agenda 21 specifically calls for each community to formulate its own Local Agenda 21 : "Each local authority should enter into a dialogue with its citizens, local organizations, and private enterprises and adopt 'a local Agenda 21.' Through consultation and consensus-building, local authorities would learn from citizens and from local, civic, community, business and industrial organizations and acquire the information needed for formulating the best strategies." (Agenda 21, Chapter 28, sec 1,3.)

Very important to mention about Local Agenda 21 is that it demands a self organization, so its results arises after dialogue among the interested districts, the Municipality's citizens, local organizations, protagonists of the private industry and the municipal authority. It doesn't replace any existing programs and concepts but it completes them in support of sustainability. In the field of planning, participation means intense cooperation between the various actors and inhabitants of the city and serves as an instrument for the equalization of interests in the planning process. The STEP 05 defines participation not only as a programmatic stance of the city, but also states the need to provide the necessary frameworks. This includes making the internal and external resources of the city's administrative departments available, and backing decentralization as well as actively taking measures to keep a culture of political debate and participation alive. In Vienna, since 1970's, there were different types of participation in town planning and development. These could be from the level of pure opinion research (E.g. EXPO 1995) up to mediation processes (e.g. Vienna airport).

c. Gender Mainstreaming

Gender mainstreaming is the public policy concept of assessing the different implications for women and men of any planned policy action, including and programs in all areas and levels, as far as in urban planning. "Gender", as opposed to the biological sex, is the social dimension; it is what we have been brought up to be and how society has shaped us. Considering the gender dimension means to not limit ourselves to the stereotyped categories of "all women" and "all men", but rather to consider the diversity and individuality of all people.

“Mainstreaming" means that the different life situations of women and men are taken into consideration in all decisions, be they in the fields of management, products, publicity work, human resources or organization. Gender mainstreaming in urban planning means integrating the perspectives of women and men and of different life situations in general as well as the concurrent divergent from the start in all-decision-making processes and project planning.

Vienna is a model city for gender mainstreaming. In 2006, the city council ordered several gender mainstreaming measures for public facilities and areas. Before that, in 2002, Miriahilf-district took place a pilot program about Gender mainstreaming in planning, a program that lasted until 2005.

Box 1: Some examples of implementation of Gender mainstreaming in the city of Vienna are:

Figure 17: Public Lighting in Karlsplatz

- Public Lighting: It is known that women become victims of crime more often than men they experience sexual harassment more frequently, and therefore have a higher need for security. typical places that cause fear and insecurity are dark doorways, parks, empty streets underground parks and pedestrian underpasses. In Vienna, the Municipal Department 33- Public Lighting, assessed the lighting situation in 200 parks in Vienna and is currently making the necessary improvements. For example, in the Resselpark in Karlsplatz all paths and bicycle stands have security lighting. The following photo illustrates this implementation.

- Vienna public transport also participates in the gender mainstreaming campaign by redesigning the round pictographs that ask passengers to give their seats to elderly and disable people and people with small children. The new ones almost look alike but where the pictograph used to show a mother with a toddler on her lap, there is a father with a child on his lap.

[3]

Figure 18: Gender mainstreaming in public metro,
Source: trendsupdates.com/mainstreaming-gender

[3] Source: STEP05

d. Diversity

Immigration is very regular for European metropolises and of course Vienna is not exceptional situation. Vienna commits itself to a policy of peaceful and equal cohabitation, and to the diversity of different cultures, religions and lifestyles. For he Municipality of Vienna the concept of diversity is defined as a cross-sectoral task . The new challenge that they have to confront is the response to social changes and finding innovative and lasting measures to migration and integration policy. In 2004, about 287000 persons with foreign passports lived in Vienna. The percentage of persons not born in Vienna is 24%. The largest group of foreign citizens are form Serbia followed by immigrants from Croatia, Bosnia, FYROM, Montenegro and Turkey. Also, the share of citizens from the new EU member states is 10%, of which more than half are from Poland. It is also important to mention that the non-Austrian residents concentrate certain areas and specifically in the districts 2, 5, 15, 16 and 20.

It is easily understood that the city-lifestyle is influenced by this new social appearance, the new economic conditions and some individual factors, such as age and gender, socio-cultural background, rising level of education of the population etc, and slightly begins to change. The requirements on housing and location quality, mobility, transport means and the organization of traffic, quality of the supply of healthcare social and educational facilities etc that result from these factors are accordingly diverse.

4.1.1.2 The Goals of STEP05

Today, the need of implementing cities for people is more compulsory than ever. After the era of the huge urbanization, the citizens work more and more hours and they communicate less and less with each other. But, on the contrary to that, a city must be the place where people meet each other, they interact with each other and organize their activities with the other. The city of the 21st century must be implemented in support of the concepts of livable city, attractive city, safe city, smart city, sustainability and healthy lifestyle. In particular, the city of Vienna targets to offer attractive location, infrastructure and innovative facilities and to create a climate that fosters investment activity (head quarters, trade, commerce, small and medium enterprises, services, technology clusters) and to preserve an adequate local supply of shops and business. What is more, is extremely important for Vienna to collaborate with Lower Austria to preserve the diversity and the quality of living space in the Vienna region by securing and expanding the Green Belt around Vienna and the Danube landscape. Moreover, a very

crucial factor for the city is the realm of the public transportation on the individual motorized traffic. People have the right to walk in their cities in style and feel safe all day and night long. Also, the planners have to take into consideration the predictable uprising price of oil in the next decades and the environmental problems that are more obvious than ever. That means that they must invoke in the new plans other means of mobility than cars that is environmentally-friendly transport such as bicycle, public transport, walking. In addition to that, they will concentrate settlement development along high-capacity public transportation, to prudently use the resource of land, to encourage the vertical mix of uses and to prevent functional and social segregation. Last but not least, one of the biggest goals of the municipality is to safeguard, stabilize and advance the quality of life in Vienna by ensuring equal opportunities for all inhabitants, taking into consideration the diverse living patterns, origins, social backgrounds and needs of people with mobility handicaps and to enable them to live a meaningful life by assuring access to cultural life, to social, educational, healthcare and care for aged facilities, to housing of sufficient size and social security, personal safety and the protection of property, and to uphold social integration.

4.1.1.3 Key Areas of Action for Urban development

Last but not least the Municiplaity of Vienna had already decided about the key areas of Action a long time before the publishing of the STEP05. This practice is a complete change in the presentation of the intentions and working methods of urban development. These areas were selected due to their situations or the changes expected. In some of them there are problems that have to be solved and others are located in districts with outstanding development potentials and opportunities that should be taken advantage of for the sake of the entire city. For each one of the key areas, there are particular development programs with concrete measures. All of the principles and goals that were described above are the same for these areas' development. For the STEP05 those key areas are:

- The city: the historical, political and cultural center of Vienna
- Banhof Wien- Endberger Mais (railway station Vienna): the most important development area in the densely urban-zone
- U2-Donaustadt- Flugfeld Aspern: former airfield is to become a complete city center with regional links.
- Florisdorf- Axis Brunner Strasse: development of the northern hinterlands of Vienna

- Siemens-Allissen: revitalization of former industrial area,
- Donaufeld: development of new city district and protection of Green Belt
- Waterfront: protection of the areas close to Danube river
- Rothneusiedl: former rural area is expected to see development dynamic pick up
- Wiental: protection of river landscape and economical development on the same time
- Westgurtel: Urban renewl measures, stabilization of the nearby commercial strrts, improvement of the residential structures
- Danube Canal: environmental protection of the Danube Canal, target area for leisure time and activities
- Prater- Messe- Krieu- Stadion: developing it into a tourist destination to exploit economic opportunities
- Liesing- Mitte: housing potentials

All of these key areas are shown in the following Figure:

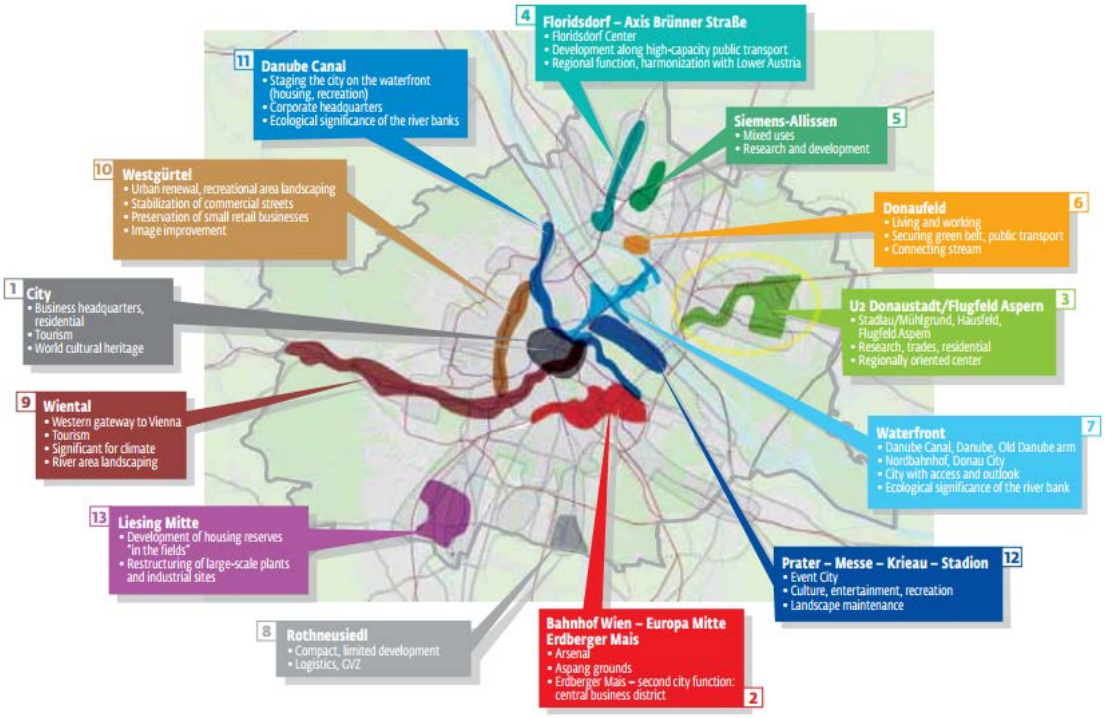

Figure 12 : The key areas of development

The Approach for a Key Area of Action is shown in the following table:

• Key areas of action are coherent sections of the city region oriented on certain themes/challenges/opportunities • These areas are not precisely delineated, but rather integrate major impacts and relationships to functions located outside the city or to parts of the city • A requirement for the start of a program in a key area of action is the commitment of the concerned districts and relevant actors. • Key area programs are open as regards working procedures and methods. • Usually, programs covering a period of several years (5 to 10 years) with concrete measures and projects are adopted. • All relevant actors are included in the preparation and implementation of the programs. • The implementation is monitored. • The process is documented in the urban development report (every five years, see below). • Learning processes are made possible by regular exchanges between administrators, actors and the involved experts from different key areas • The monitoring and quality assurance of the programming process that runs parallel is accomplished by a joint program management. • The urban planning body is responsible for the financing of the programming work. The municipal departments in charge, the districts, the downstream offices and the enterprises of the city of Vienna in their respective areas of competence are responsible for the detailed planning procedures as well as the definition of necessary measures.

Table 4: Key areas

Map of Spatial Development Scheme for Vienna as it is shown in STEP05

4.1.2 CENTROPE

As it was mentioned before, after the enlargement of EU, Vienna had the opportunity to play a key role in the new Union because of its location, in the center of the continent. In 2003, the Central Europe region (CENTral EuROPE) was established with the Declaration of Kittsee. The CENTROPE region comprises by Austria-Czech Republic-Slovakia-Hungary. The objectives of the regional cooperation is to strengthen the economic area among the cities of Vienna, Bratislava, Trnava, Győr, Sopron, Brno, Eisenstadt and St. Pölten. The actors within Austria have to harmonize and work well together for Vienna to be able to play a key role in CENTROPE. So, the cooperation among Vienna, Burgenland and Lower Austria must appear stronger and the first step to that is that those three Länder are already being marketed as a joint location area under the name of Vienna Region. Last but not least, the development of the peripheral urban areas and the attractive hinterlands lay a special role. It is fact that it is easier to take advantage of common development potentials when efforts are coordinated but competition between Vienna and its hinterlands is also obvious. A third level of cooperation and harmonization in the region therefore affects the direct surroundings of the city.

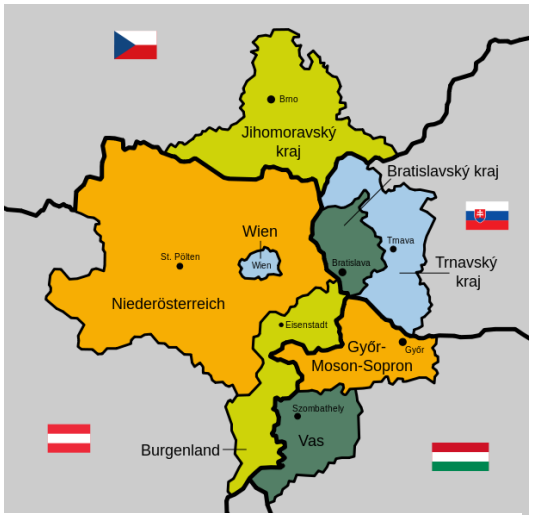

Figure 21:Cooperation Areas in CENTROPE 1 Source: de.wikipedia.org

4.1.2.1 The Goals of CENTROPE

Decades of tight borders in the hinterlands of Vienna will be eased in the coming years until they resemble administrative borders within the country. Dynamic, growing economic areas are emerging in the areas immediately bordering Austria in the neighboring countries. With the support of the organization, legal and financial instruments of the EU, the neighboring regions will show a relatively high rate of economic growth in comparison to the Eastern region of Austria and other old EU regions. In this setting, the opportunities for Vienna and the Eastern region of Austria lie in proactively participating in the dynamic growth of the neighboring regions. The European region CENTROPE offers a platform for achieving this goal.

One of the most important aims of the new region is to become a globally competitive location for new enterprises. One of the special features of the core area of CENTROPE, is that the two

capitals of Vienna and Bratislava are located very close to each other ("The twin cities"). This relationship is very crucial for the functioning of the model of co-operation for benefits for both cities. Those potentials can only be developed by the intensive networking of the locations within the new region. Some points to this development are:

- Enlarging the transport infrastructure into a full network of operational routes of equal quality comparable to those of other European capital regions including airports
- Upgrading business locations to the globally high quality levels and location marketing
- Opening the labor markets on both sides of the borders gradually and moderately
- Taking advantages of the diverse qualifications, languages, market approaches and wage levels to improve growth in the entire region.

One of the greatest aims of this project is to boost the quality of the transport of passengers and goods. To this direction are working the measures of financial development, expansion of transport infrastructure and the elimination of custom clearances. What the transport of goods is concerned, the main goal is to shift the largest possible share of expected freight flows to railways and shipping lines by expanding railway infrastructure, the supply of logistics services and steering traffic in coordination with the neighboring region. What the transport of passengers is concerned, the main goal is to grow the attractiveness of the public transportation. There are many plans for improving the inner-regional lines between the centers of Vienna and Bratislava. Also, they are working on the linkage of the airports, a rapid transit ring that provides better rail connections for the two cities on both sides of Danube and the creation of a joint, cross-border transport association.

Economic sustainability is an equally important goal for the region. The economic development, and the accessibility of the markets are the main targets for accomplishing this goal. For avoiding future competition among sub regions for the location of international companies, CENTROPE region planned to be able to concert positions and market the entire region at the global level.

Another main goal of the project is the development in support of the environmental sustainability. The region is known for its variety of natural landscapes. The designation of the "Green Center" will be used for the National Park that forms the heart of the region between

the two cities, Vienna and Bratislava. The breakthrough idea of connecting and internationally marketing a biosphere region where the valuable natural spaces ranging from Vienna Woods to the Small Carpathians and the Hungarian Danube Floodplain Island are located holds the promise of a development perspective that goes beyond just the next few years.

4.1.2.2 The Goals of the city of Vienna in the region of CENTROPE

Vienna pursues the following goals for the development of the city within the region:

- Concentration of urban development measures in economic areas that offer clear local advantages for the city
- Enlargement of the transport infrastructure of the region CENTROPE (particularly high capacity links between centers)
- Development of hub functions into excellently equipped business locations in the city
- Cooperation with the neighboring region with the goal of harmonizing development, achieving progress in the enlargement of the infrastructure, steering settlement and transport development in environmentally suitable processes to solve conflicts of interest

4.1.2.3 Some more strategies of the city:

As it was written above, the economical development is the most important factor for the CENTROPE region development. Furthermore, at what concerns the environmental and social sustainability, the most important areas are regional and local development, infrastructure planning and realization, education and research policy, tourism and the leisure time sectors.

The following objectives have been formulated:

- To advance the regional, cross-border space of relevance under the new political, economic and technological conditions into a functional economic region in the vicinity of Vienna that would enable the city to attain an exceptional development versus other cities in the EU backed by the strength of the CENTROPE partners.
- To exploit the financial and regional advantages of Vienna within the network of the cities of the project-region. Some of those advantages are the size and specialization possibilities, the role that Vienna plays as a capital and the city with the highest number of inhabitants and the strongest economy in the region, educational research and administrative center, financial services, headquarters, international airports with hub

functions for Central, Eastern and Southeastern Europe, attravtive location in Central and Eastern Europe.

- To achieve the optimal integration and accessibility of the CENTROPE region internally and externally, to secure, develop and advance international top locations in Vienna along the main transport arteries.
- To promote a settlement and economic development in the surroundings of Vienna that focuses on accessibility by high-capacity public transport in order to create the conditions needed for qualitative growth to continue.
- To provide a regular information and communication platform jointly with the relevant administrative bodies from Bratislava, Györ and Brno for the implementation of joint projects as a means of support for cross-border planning and financial activities already underway in the CENTROPE region. For this reason, a cross border organization similar to the "Planning Association for Eastern Austira" is created.

4.1.2.4 The development principals of the region:

The development of the region addresses the following new development principals:

- Settlements developed according to the principal of decentralized concentration.
- Development centers at the hubs of the high-capacity rail and road networks to secure sustainable and compatible development of transport.
- Concentration of enterprises at these hubs, encouraging the mixed use (diverse forms of enterprises, leisure-time facilities, housing units) to attain the best possible capacity utilization of public transport.
- Enterprises are to be concentrated in a few locations in the surroundings of Vienna, something that requires the participation of several local authorities at these locations (inter-communal industrial and commercial areas). Steering instruments must be created that encourage development in concentrated areas and help to avoid the despoliation of the landscape.
- Enterprises that have the potential to include individual motorized traffic should not be located at decentralized locations that do not have attractive access to public transport.
- Keeping high-capacity routes free of settlement with housing and commercial uses avoid including additional individual motorized traffic.
- Clear demarcation of settlement areas.

- Sensitive harmonization of regional shopping centers with local settlement structures (creation of integrated locations), compact settlement forms that meet demand for private green spaces within housing units (e.g. high-density single –storey housing units).
- Preservation of public open spaces and green spaces among moderately built-up zones.
- Orientation of relevant framework in these principals to reduce as far as possible any counterproductive effects. This includes subsidies for housing construction, infrastructure development, land policy, revenue equalization.

4.1.3 Traffic Masterplan

In 1994, the Vienna's Municipality implemented the first traffic masterplan in which there were measures about parking space management and the further expansion of the U-Bahn and cycle tracks. In 2003, the role of Vienna within the Europe changed, so a new Transport Master Plan was absolutely essential. New measures were implemented , new strategies were specified according to the new transport needs of Vienna. The result of these was a brand new and future oriented transport concept for the next 20 years.

Figure 12: transport System in Vienna

The municipality department that was responsible for the implementation of the new traffic masterplan was the MA 18. A core working team was responsible for the organization and for specialist input. Nevertheless, the citizens were able to express their suggestions, proposals and criticisms in respect of the traffic system by means of a wide-ranging participation and information process. About the 80% of their suggestions were taken under serious consideration and created the working basis of the master plan. As it was mentioned above, the first Masterplan was in 1994 and the improvement measures that had

been implemented were for example the expansion of parking space management and the increase in the scope of public transport succeeded by the extensions of the U3 and U6 lines. After these structural and operational measures, the quality of those was more attractive. However, there was still a need for an expansion of the road and rail network and the construction of the Vienna Central Rail Station – Center of Europe and good terminals. For example very important implementations would be: the increased density of stops on the Vienna's regional rail network, the giving priority to trams and buses, and the expansion of the bicycle lane network. At the top of the agenda is, of course, the cooperation among the city and the region including the urban hinterlands and the CENTROPE region. Cooperation addresses linking in with European national transport policies and harmonization of spatial planning and traffic development in the region. A challenging project for Vienna is also the development of the Transeuropean Transport Network (TEN) to include rail connections: Vienna airport – Eisenstadt –Sopron and the rail destinations Paris-Munich-Vienna-Budapest and Berlin-Prague-Trieste. As far as the road network is concerned, the most important aspect is the regional line S1, the integration of the A5 and the incorporation of the A6- Kittsee/Bratislava link road into the Transeuropean network. In order not to put the integration of the underground, tram and bus systems at risk, in connection with liberalization of public urban passenger transport systems, the City of Vienna advocates the position that there should be a choice between direct contracting and performance and controlled competition. Should decisions be given in the higher courts which make further liberalization compulsory, exceptions must be made for rail transport systems. The national level is responsible for ensuring the sufficient performance of the traffic infrastructure as it is recorded in the General Transport Plan of 2002.

A very important challenge for the municipality of Vienna is the harmonization between spatial planning and public transport. It is absolutely essential to align settlement structures with top-quality public transport. This traffic policy aim is directly linked to the economic necessity of major investment in extension of the underground network in order to benefit future residential developments. An example of this policy is the Aspern city project that will be examined in a following chapter.

As it was mentioned before, by 2020 the population of Vienna will have increased but the dynamic growth will be concentrated in the suburban areas. Furthermore, the population of the city starts ageing again and the mobility of older people will increase considerably. Moreover, globalization demands the international integration and networking of the economy. Increased

spatial division of work will increase transport distances. The commercial zones find themselves competing to attract companies and the most appreciated location criteria for them is the quality of the transport system. Another important today's factor is telecommunication. Telecommunications allow for increased efficiency in the transport system, including the provision of improved information, and optimization of lane management. Teleworking from home and "desk sharing" at work are leading to a breakdown in fixed working hours and regular rush hours. It does not mean reduced mobility, but only a change in times and also changes between different purposes for journeys. Last but not least, Austria committed itself a 13% reduction in polluting emissions by 2010, compared with 1990. Nevertheless, emissions have risen by 9% and traffic plays a disproportionate role in this.

To sum up, the city's transport policy is confronted with numerous trends and conflicts between economic and planning policies, environmental and transport policies, which conflict with its aims. Intelligent innovations are required to overcome the challenges it faces and solve conflicts of objectives.

4.1.3.1 Intelligent mobility

Vienna should be a prosperous urban region, and that means that its development depends on the activities of its citizens, the economy and mobility. The mobility should not unfavorably affect the quality of life of the next generations too. Very important innovator is the Intelligent mobility in the city of Vienna.

The main factors to achieve intelligent mobility are: sustainability, innovation, cooperation, acceptance and effectiveness.

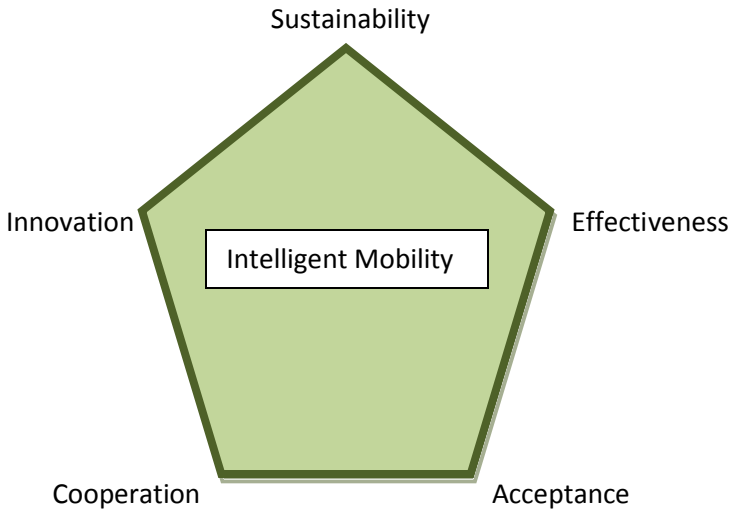

Figure 13: Intelligent Mobility

- Sustainability: According to the Burgland Report, sustainability means the methods of the present to be such as to leave future generation optimum satisfaction of their needs as well. The 3 pillars of this are the social, the economic and the environmental. As far as the mobility is concerned the pillars are oriented as following:
    1. Traffic prevention: urban and spatial development in a way to reduce mobility and at the same time gives high quality of life in the city.
    2. Modifying transport behavior: Vienna's aims for this are the reduction of individual car journeys to 25% of all journeys, increase in cycle transport to 8% as well as increase in public transport from 34% to 40%. Last but not least in the area of transport extending beyond the urban boundaries, transport mode distribution between public transport and motorized individual transport from 35%/65% to 45%/55%.
    3. Economic sustainability: main aim is to strengthen the regional economic basis and to develop export competence. This can be implemented by the assurance of the accessibility from outside and within Vienna. The means of Transeuropean Transport Network, the improvement for the necessary commercial traffic such as delivery journeys, stopping and parking places and giving priority to over private car journeys are some tools addressed to this target.
    4. Social Sustainability: the main challenges that Vienna's municipality is focused on are the social equality, equality of opportunity and gender mainstreaming. A

huge priority is given to social and gender distribution of mobility opportunities including the improvements for people with mobility difficulties, design of traffic system in accordance with the "2 senses principle" (hearing/vision, hearing/touch, vision/touch) adjusting the transport behavior of men to more urban-friendly behavior of women and the increase in traffic safety like reduction in the number of deaths and injuries.

5. Environmental Sustainability: Vienna adopted the Climate Protection Programme in 1990.According to it Vienna city must achieve a reduction of CO_2 emissions caused by traffic by 5% per head and a reduction in noise pollution by traffic in a way that 20% fewer citizens feel affected by traffic noise nuisance.

- Effectiveness: mobility which conserves resources requires a high level of conceptual imagination at the organizational stage. For instance intelligent car use, such as car sharing, and HGV usage (reduction in empty journeys). An important element in increasing economic efficiency in mobility development is the inclusion of external costs (environmental impact costs).
- Acceptance: "intelligent mobility" requires permanent dialogue based on trust between all concerned: information, communication and motivation as prerequisites for raising awareness which is the first step towards behavior patterns.
- Cooperation: In order to meet the challenges of the "Transport Master Plan 2003" the city of Vienna needs partners including the surrounding districts as well as the regional authority, the ÖBB (Austrian Federal Railways), public-private partnerships and the other bodies beyond the national boundaries, the neighboring countries to the north and the east. These partners must be included n projects at an early stage, to avoid conflicts of interest and therefore improve overall plan quality.
- Innovation: All objectives of sustainability, effectiveness, acceptance nad cooperation can only be achieved through innovation in terms of procedures, organization, implementation, infrastructure and technology. The claim of the Transport Master Plan 2003 is that it develops and prepares for the implementation of successful and feasible central aspects and carries on the issues of transport policy. The following table shows the main points for negotiation.

Main points of negotiation	
➢ Safer mobility (Vision Zero): Drastic reduction in the number of deaths and injuries	➢ Great cycling: A leap forward in the quality of cycling
➢ S-Bahn plus: Attractive public rail transport between the city and the region	➢ Good and Available space: Claiming back public space
➢ U-Bahn incentives for city development: Development zones well-connected by public transport	➢ Mobility: The development of an all-inclusive transport and mobility management system
➢ Fast public transport routes: Attractive tram and bus connections to outlying districts	➢ Logistics competence: Spatial management of goods and commercial traffic
➢ Stop only at designated stops: Systematic priority given to tram and bus	➢ Road and rail for Europe: Road and rail systems to be developed to improve the location and make residential areas quieter, to speed up public transport and improve cycling and pedestrian traffic, while designing roads and paths to give in less overloaded road network

Table 5 : Main points of Negotiation

It is widely recognized that in built-up urban areas with a good mix of uses, the environmentally-friendly modes of transport (walking cycling, public transport) are more appreciated than in the out-lying districts. For implementing the mobility of the city it is important to investigate the mobility behavior of the Viennese people. Firstly, women are more frequent users of public transport than men. According to studies, about ¼ of all journeys is for working purposes and the percentage for training and educational purposes is about 10% both by men and women. Also, the population of Vienna makes 31% of all journeys in connection with leisure activities and 26% in connection with shopping. Moreover, the 6% of journeys are made for commercial/official purposes and accompanying others.

Last but not least, city tourism is an essential economic factor for Vienna. This has steadily increased over recent decades. Tourism traffic gives rise above all to problems which are limited in space and time. Further growth can be expected in future both in “normal” city tourism and congress tourism. In particular, organized “senior tourism” and event-oriented city tourism look set to boom. The effects can only be countered if the public transport system to attractions is promoted in order to minimize the negative effects of tourist coach transport.

4.1.3.2 The road network and public spaces

The road network serves the purpose of linking and providing accessibility to urban functions. In addition to traffic flows and stationary vehicles, public transport, cycles and pedestrian traffic, the road network also provides public space for spending time and meeting people. Finally, the streets are also an element of urban planning and have environmental roles (lighting, ventilation, provision of green space). Given limited space, these various requirements will inevitably lead to conflicts, which must be tackled using structural and organizational measures. The desired increase in the proportion of public transport, pedestrian traffic and cycles, means that investment and planning for the modification and expansion measures in the next few years must be in this direction. In expanding and increasing the main street network, the emphasis will be on relieving existing residential areas. In designating new residential areas a network should be ensured which is sufficient to link in public transport with the requirements of non motorized traffic. The comprehensive existing main street network of the City of Vienna, at present extending to around 700 km, is structured around the criteria required for cars. A new arrangement of the network should better correspond to the traffic policy aims and contain clear rules on dealing with conflicts of use on the streets.

The new main street network should consist of higher-priority car transport streets, of streets with high sequenced tram and bus lanes and high frequented pedestrian streets. The requirements of the road system arising from increased cycling must be fulfilled separately from the above main road network functions. A change to the existing main road network affects the division of financing responsibilities between the central government and the districts. In addition to the specialist criteria, it must also be considered in terms of the budgetary requirements. Thus the re-shaping of the street network must be undertaken together with the districts. In addition to the re-evaluation of the street network, the increased provision of permanent and temporary traffic-free zones and generously-dimensioned pavements should provide a tangible quality of life on the urban street scene. Areas dedicated to meeting-places, seating, relaxing and more commercialized purposes such as small public gardens (Schanigärten), lead to a positive animation of the street scene (provide the necessary traffic circulation space is kept free). Special provisions for children include not only the best possible playgrounds, but also a wide range of safe and attractive play facilities in public spaces.

The municipality of Vienna decided to set the appropriate priorities about the different traffic types and the road users. The highest priority is given to minimum standards for pedestrians and the needs of public transport are following. Next are comfort improvement considerations for pedestrians extending beyond the minimum standards even on those streets that are not considered part of the main pedestrian network. Following pedestrian and public transport requirements, the minimums standards for cyclist traffic on the main street network should be applied such as: cycle lanes on the main streets, shared use of bus lanes, safe system around tram and bus stops, no diversions over neighboring lane networks. Next priority is the flow of the car traffic and last but not least is the parked traffic. These priorities had been set in 2003, but a change in them is always possible.

4.1.3.3 The priorities

Minimum standards for pedestrians: One of the most challenging aims of Vienna is to increase the road safety of pedestrians. If too little emphasis is placed in the design of traffic areas on orientation, field of view and visibility, insecure and threatening situations can be created which limit mobility choices. Also, a creation of a comprehensive interconnecting pedestrian network is essential. Thus in built up areas the emphasis is on the targeted opening-up of gaps and the possibility of unrestricted passage between different levels. In less densely built-up areas, the creation of attractive pedestrian connections is very important. Moreover, a constant freely-accessible minimum pavement width of 2.00m should be ensured when planning new open spaces and temporary installation like parking spaces. Other measures to be taken are the creation of the interfaces between the main street network and the secondary street network by means of special structural measures such as continuous pavements, the reduction of traffic-light-controlled waiting time for pedestrians to max 40 sec and the setting of the green phase in seconds to be equal to the crossing length in meters. The solution to differences in levels should be improved by providing existing kerbs with ramps for wheelchairs and children's buggies. Public transport stops and high-throughput under- and overpasses should be fitted as standard with lifts. Last but not least, important is to improve orientation for persons with limited mobility by installing light signals with additional audible and tactile signals.

Needs of public transportation: The attractiveness of public transport is evaluated differently depending on the area. In the built-up area of the inner city, in areas where priority is given to

Figure 14: Metro station and Buses in Vienna

public transport and along the U-Bahn axe, the proportion of public transportation is increasing. Contrary, in the case of commuter traffic between Vienna and the surrounding areas, supply and demand is stagnating. Today's requirements demand the optimum networking of different modes of transportation and the activities of individual service providers, bringing together the individual services to provide high quality operation covering the whole of the city region. The new European role of Vienna demands a further development in its capacity as TEN node. At the same time there should be highway extension and the city should become an attractive transit and transfer point of passenger travel and an intermode goods transport interchange with the prerequisite of the establishment of a logistics cluster. The two main train and bus station of Vienna, Sudbanhof and Westbanhof, will be modernized and more attractive as part of the overall station strategy. As far as the S-Bahn is concerned (Snell-Bahn → Fast train), the new project that ended in in2003 was to be revised with the objective of substantially increasing the proportion of commuter traffic from the region. In addition to infrastructure and operational requirements, quality-oriented measures should also be specified, such as a new S-Bahn train type and the redesign of the S-Bahn stations to a standard equivalent to that of the Vienna U-Bahn stations. For small-scale localized coverage, an attractive regional bus service is needed, whereby the accessibility of the end terminals of these regional bus lines – with the future terminals of the public transport network of Vienna – should be supported by the provision of regional bus corridors.

The U-Bahn (metro) is the most popular and the most successful inner-city mode of km and around transport. Now, the Underground system of Vienna contains about stations. When undertaking the line extensions and network expansions priority is given to those sections

where there is adequate potential for further urban development or an essential contribution to improve traffic mode split can be made, which affects in particular non-Viennese citizens, for example in U2: expansion to the North in the Aspern airport direction . Nevertheless, in order to increase the proportion of journeys made by public transport, the U-Bahn network must be combined with another attractive mode of public transportation so there will be a system of transportation that meets the demands of passengers.

Another important point is the priority to be given to trams and buses along the whole of the lines. In addition to that, dedicated tracks or bus lanes, reactive traffic signals and stages implementation of a computer controlled operating system should be planned to lead to faster journey times. Last but not least, the attractive design of the stops (lighting, eather protection, seating and information) should support passengers comfort.

Cycle traffic: Bicycles will get you from A to B quicker than anything else in the city. They have many advantages over cars. Environmentally friendly (no exhaust fumes, no noise) they are a good way of keeping fit as well. They require little space so traffic jams are never a problem. No need to look out for parking space either. All this has made the City of Vienna decide to raise the share of bicycles in overall traffic to eight percent. A bicycle-friendly atmosphere is to help make bicycles an everyday means of transport. The bicycle path network is more than 1,050 kilometers long. The cycling network is completed by means of the so called “Gap closing Programme” and is caracterised by top-quality provision and unified standards, which include clear signposting. Also the designate cycle tracks are included in the Road Traffic Regulation. Moreover, the spatial provision for cycle traffic is trying to be in accordance with the mix principle. Some implementation to be done is the improvement of the crossing facilities in pedestrian zones and on main roads, and the opening up of one way streets. The expansion of the project will cost about 30 million euros and some of the funds are collected from parking measures. Last but not least, since 2003 there exists the “City Bikes Wien”, that is one of the

Figure 16: Bicycles in Vienna

most modern free city bike systems worldwide. There are more than 60 stations throughout the city, open 24 hours a day , 7 days a week.

Motorized Individual Transport: Over recent years the development of traffic in Vienna has been characterized by the increase in motorized individual transport. An attractive public transport system, in particular the expansion of the U-Bahn and management of parking provision have reduced the level of increase in motorized individual transport, in particular in the densely built-up central areas of the city. Within the Gürtel the average loading has to an extent even decreased. However, traffic on the urban motorways and in the outer districts of the city is still increasing. Especially the south-east tangent is particularly liable to traffic jams. The development of the main road network was an absolutely essential project to be done. Also, the project was made in accordance with the improvement of accessibility of Vienna as a commercial location, with a reduction on the burden of traffic on residential and leisure areas, the provision of sensitive urban spaces, the new development of residential zones, the contribution to the desired residential development and the desired modal split changes. This new-introduced city-friendly development of traffic system couldn't be achieved without technical improvements to vehicles nor without associated safety measure such us measures to reduce emissions like soot and NO2 from cars and commercial vehicles and increased monitoring of car emissions by mobile exhaust measuring schemes. Moreover, noise reduction measures such as low noise road surfaces, road insulating wall, the enlargement of 30 Km/h speed limit zones took into consideration and were implemented together with limits for HGVs . Last but not least, very important target was to ensure a smooth flow of traffic.

Parking Traffic: The first implementation about the parking space management system was introduced in 1994. According to it, there was reduction in long term parking and parking space availability and the parking space situation of the residential population improved. It is important to mention that this implementation took place in the first 9 districts of the city of Vienna, meaning in the center of it. At the same time, the garage programme was development. In its frameworks, there are 160 commercial garages built with about 50000 parking spaces. the new expansion areas (such as the Aspern) are planned to be pedestrian-friendly and give a high quality of life. The sufficient parking spaces are provided for residents' cars and the business located there. This parking space policy is used to reduce traffic. One of the most challenging

targets in what has to do with the parking management, is to ensure that long term parking spaces are moved from the streets to garages or private parking areas. The next level is the reduction in open air parking spaces.

Figure 17: Parking in front of houses in Aspern

The Viennese parking space management is a particularly effective instrument in the urban traffic policy, and is comparatively very successful internationally. Fee-generating parking should also be available in future without time limitation. But the parking space policy stands and falls with the monitoring. In the context of vehicle security and keeping the ways clear for pedestrians, the control of public parking areas should be expanded in future.

In order to control car traffic, a limitation of private parking spaces associated with commercial premises, office blocks and shopping centres is also proposed. To this end, governmental and fiscal instruments of control can be used (e.g. the introduction of maximum parking space limits, taxes on traffic-generating elements). However, all these measures must be agreed with Niederösterreich and the surrounding districts, in order to prevent migration of businesses for whom good accessibility by car is essential out to the surrounding Niederösterreich area.

Other transportation systems that the Transport Master Plan Vienna 2003 is referring to are the Shipping and the Air transport.

Shipping in the Danube during the 90's had been experiencing permanent exceptional circumstances because of the political crisis in the Balkans. This means of transportation on the Danube has not been developed as was expected. River-borne transportation compares favourably ecologically with the transport of goods by road, and so incentives should be introduced to improve domestic river transport, a move that is supported both by the European Union and the Federal government. The objective of the city of Vienna is to increase the proportion of transportation via the Danube waterway away from road transport and further extend the port of Vienna as a multi-modal goods transportation centre. Only a few of the

measures along the Danube which are necessary for achieving these transport policy objectives lie within the decision-making sphere of the City of Vienna. However the City promotes and supports the ecologically-sustainable expansion of the whole of the Rhine-Main-Danube waterway in accordance with the international agreements which have been made. The improvement of the conditions for container ship transport, the introduction of the "Danube River Information Service" (DORIS) to improve performance and safety on the Danube waterway, the improvement of the Danube between Vienna and Bratislava and the quick removal of the pontoon bridge at Novi Sad and the associated recalculation of navigation fees, should all contribute to the improvement of the Danube as transport route and commercial waterway. With an area of 350 ha, the port of Vienna is the Austria's biggest public port on the Danube. With a concentration of over 100 companies on the interface where water, road and rail transport systems meet, the port of Vienna is also the biggest goods transport centre in Austria. The Port of Vienna should have a key role in developing Vienna into a modern, high-capacity, inter-modal transport interchange. Essential to this is the construction of the Winterhafen bridge for rail traffic, the shift of the B14 to the dockside road and the connection to the future S1, and the expansion of the tri-modal terminal for combined traffic in the Freudenau docks, the hundred-meter extension of the quays in the Albern docks to increase the handling capacity, the construction of a new depot for the storage of bulk goods, and the improvement of the high-water defense systems for the Freudenau and Albern docks. A further cooperation with other Danube river terminals is essential for the sustainable operation of the shipping transportation.

Figure 18: Schwechat Airport, Source: http://www.simflight.com/2010/04/24/version-2-of-vienna-schwechat/

Air Traffic: In 2006, the number of the passengers terminating at Vienna Airport was approximately 16 million. That means that during the period 1995-2006 there were an increase at about 40%. This is a result form the successful positioning in recent years of the airport as a West_east and increasing also as a West-Far East hub. Due to the expansion of the European Union the catchment area of the airport has increased from 5.6 to 16 million. The current forecast of the Flughafen Wien AG airport company shows a further increase of passenger throughput by 4.6% per annum, meaning that the growth will be above the European average. Nevertheless, Vienna airport is

also a dynamically growing commercial location. The strong growth generates considerable traffic problems on the grounf- both on the airport site and also the routes which feed it. By the time the Traffic masterplan had been being created, the access to and from the airport was insufficiently served by public transportation. No, besides the train and the buses that are available for this airport-city center trip, the City-Airport Train (CAT), co-financed by ÖBB and Flughafen Wien AG, runs between Station Vienna Landtrasse and the airport station. The train can reach the airport in 16 minutes. Very important also for Vienna are the high-speed connections that must be created with the surrounding conurbations, especially with Bratislava.

Mobility management: attempts to increase the efficiency of the transport system by means of operational and organizational measures have been under way in Vienna for years, since 1995 the Vienna Lines company has been building up a computer controlled operations management system which at present includes 20 daytime and all night lines. In the traffic control centre of the Vienna Police and the motoring associations, all information on the flow of traffic and stoppages is collected and passed on. All traffic information is passed on via the Federal Ministry of the Interior's All-Austria Traffic Information System . Information on construction sites is displayed on the Internet by Municipal Department 46 by means of a graphic construction site information system. The electronic parking management and information system currently supplies real-time information on around 24 car parks and garages. Since 1991, passenger information has been available from the electronic journey plan information system of the East Region Transport Association. Austrian Railways and Vienna Airport have their own rail – air travel plan information. Mobility management includes management of and between different transport systems, information on users, communication between the transport users and operators and the range of mobility-related services. Transport users should be motivated to seek city-friendly alternatives when choosing their mode of transport. Under control by the City of Vienna, as part of the VEMA (Verkehrsmanagement Wien – Vienna Traffic Management) Project, an organizational structure is being built up to ensure a systematic exchange of information, the collation and use of traffic data and a strategic traffic control system. As an initial stage a communication platform and data pool between all involved is being developed. The main target of the Municipality of Vienna was to give Vienna a modern, inter-modal and regional traffic information system, which must benefit from developments with the Internet, mobile phones and navigation systems, in order to make information available to citizens

quickly and cost-effectively. Moreover, "Soft" mobility measures include organizational measures with the objective of sustainable transport behavior patterns. These are primarily information measures (e.g. basic mobility Information packages for those moving into the area) and marketing (public transport operators' ticket, car sharing, car pooling, teleworking) which can substantially increase the effectiveness of expensive infrastructure expansion works.

4.1.3.4 Risks and Opportunities

In almost 40% of all journeys in the urban system of Vienna, travelers have a possible choice between the car and an environmentally-friendly mode of transportation like walking, cycling or public transportation. The potential for changing from the car to environmentally-friendly forms of transport is about 20% according to the Vienna City Administration, meaning that changing travel behavior of Viennese involves both opportunities and risks. The challenge for the city of Vienna is the improvement of the information on the traffic policy objectives is big. In order to ensure that these objectives can be achieved, packages of measures in the area of publicity like road safety campaigns, publicity modules for the districts etc, management of information and mobility education such as education in comprehensive mobility instead an excessively car-dependent way of thinking and school project days should be pursued.

In addition to planning, organizational, operational and structural measures, mobility developments can also be influenced by legal, fiscal and financial control instruments. An essential basic principle of the Transport Master Plan is, moreover, an efficient design of the transport system. The principle of "true cost" including the external costs of mobility developments (consequential costs of accidents, damage from noise pollution, air pollution, climate change, etc.) is implemented in stages. Existing instruments need to be adjusted with the City of Vienna adopting the role of proposer, appraiser or lobbyist and drawing on the readiness of other institutions to participate. In this context it takes an active role in achieving the desired changes or preventing undesirable developments. In the area of the Federal Road Traffic Order there is a need for change regarding overtaking or passing a train or tram stationary at a stop, both in relation to the priority rules in favor of public rail transport turning to the left and with regards to cycle lane use obligations. The Vienna Land state laws should specify the introduction of upper limits for parking space numbers for non-residential use, and also the prerequisites for the introduction of a fee-based car park management system will be put in place. So-called "Job tickets" should be issued tax-free, and a restructuring of the fiscal promotion of a shift in commuter traffic towards environmentally-friendly modes of transport

should be forced; the tax on diesel should be made equal to that on petrol, and together with Niederösterreich the introduction of a traffic connection tax system and a "tax on traffic-generating elements" should be examined. From the point of view of the City of Vienna, the level of tolls for Road Pricing should be at least 29 cents per km and the legal penalties for offences which endanger road safety and increase environmental impact (e.g. failure to observe speed limits, entering junctions before the exit ways are clear) should be increased. The short-stay parking rates and consumption taxes, unchanged since 1986, should be reviewed, and the award of grants for residential development should depend on areas with good public transport connections. In addition to legal, fiscal and financial instruments, the City of Vienna can also increase hange to sustainable mobility development on a contractual basis – for example by concluding mobility contracts.

After 2003, every 5 years the municipality of Vienna makes checks to see to what objectives have been achieved and measures implemented. The key criteria are show in the following table:

Criterion	Measure of success (relevant year in brackets)
Modal split (journeys of Viennese citizens every day)	Reduction of the proportion of motorised individual transport to 25% by 2020 (2001)
	Increase of the proportion of cycling to 8% by 2020 (2001)
	Increase of the proportion of public transport to 40% by 2020 (2001)
	Keep the proportion of pedestrian traffic at 2001 levels (2001)
	By 2020 the choice of mode of transport should reach 75% environmentally-friendly modes by both men and women (2001)
Modal split (journeys of commuters every day)	Change of distribution of modes of transport between public transport and motorised individual transport by 2020 from 35 to 65% to 45 to 55% (2001)
Traffic density in Vienna	The number of journeys made by car (car km) should not increase further (2002)
Density of car traffic	No further increase in traffic crossing the Gürtel (2000) Reduction in averages within the Belt/Danube channel (2000)
Mobility choices	By 2010 100% of inhabitants to live within 15 minutes of a public transport stop (2002)
	The annual network season ticket price for Vienna to remain at least constant in relation to the average income (2002)
Transport safety	The number of deaths and injuries to be reduced by 50% by 2020. (2002)
Emissions	The instances of exceeding the maximum NO_x limits at road intersections to be reduced to zero by 2010. (2002)
	The proportion of residents affected by noise pollution to be reduced by 20% by 2020. (1996)
	6% reduction in traffic-caused CO_2 per capita by 2010 (1987)

Table 7: The key criteria: source: Vienna traffic masterplan

With the help of traffic model calculations and qualitative evaluations by experts the effects of the proposed package of measures on the modal split and the pressure on the network will be estimated, with the effects also dependable on the non-assessable extent of implementation. The estimate of effectiveness on choice of mode of transport clearly shows that structural measures are not sufficient, but that a package of measures including “parking space management”, “mobility management”, “awareness raising” and the “use of steering instruments” has a leading role in achieving the desired objectives. There is an essential risk factor in the fact that the City of Vienna above all is only partially able to make decisions concerning the steering instruments. Also the extent to which desired environmental objectives can be achieved is determined by technical standards and steering instruments, over which the City of Vienna has only little influence. The checking of measures for their effect on generating equality of opportunity between the sexes shows an improvement in gender mainstreaming. Compensatory and follow-up measures are reposed for potential conflict areas. The measures contained in the Transport Master Plan have a positive effect on Vienna as a commercial location. In summary, it can be said that the objectives set are attainable, but that success depends on good cooperation between all responsible parties.

Last but not least, a very crucial thing about the traffic masterplan, is the financing. The financing of investment projects has been undertaken in various ways:

For A and S Federal highways this is undertaken by ASFINAG. B routes (formerly B Federal Highways) are financed from the budget allocated to the City of Vienna after the transfer of part of the responsibility for the Federal highway network to the Land authorities. The remainder of the road network is divided into that part of the main road network which, in the case of new roads, is partially paid for by the central City budget, and secondary roads, for which the district councils are responsible. The Federal government is responsible for financing the rail infrastructure. The operation of the S-Bahn services is also the responsibility of the Federal government, in accordance with the Public Regional and Local Transport Law of 1999 – at the level set for the 1999/2000 transport plan year. The financing of the fourth public transport expansion phase should also be undertaken 50% each by the Federal and Province governments for the U-Bahn, in accordance with the “Vienna Contract”. The expansion of the tram network is the responsibility of the City of Vienna. The inclusion of private investors and operators – Public Private Partnership – should be examined and pursued, in particular in contracts for traffic and

mobility management, the construction of stations, goods terminals, logistics centres and the connection of major projects on the periphery of the city with the public infrastructure.

4.1.4 Waste management plan

The Federal Waste Management Act is the legal framework for waste management in Austria. It regulates treatment of hazardous waste and all matters requiring standardized federal rules. Hazardous waste is thus within the competence of the federal government. The Waste Management Act is completed and rendered more specific by ordinances and decrees. For the city of Vienna the packaging ordinance, the landfill ordinance and the waste electrical equipment ordinance are most important. As a consequence of division of competences between federal government and the nine provinces the latter elaborate their own waste management provisions regulating waste management of non-hazardous waste for each province. As Vienna is both – municipality and federal state – the Vienna City Administration also acts for the province of Vienna. The Viennese Waste Management Act adopted in 1994 stipulates compulsory area-wide collection of residual waste and recyclables.

Every 5 years, the municipal department 48 elaborates the Viennese Waste Management Plan for the Vienna City Administration acting for the province of Vienna. This plan includes:

- The actual state of waste management, in particular with regard to type and mass of waste in Vienna
- Forecasting concerning waste management required measures
- Need and operation of treatment facilities and landfill sites
- Number of required personnel or installation of service centers for waste consultation

The concept formulates the goals of waste management which shall not contradict the Federal Waste Management Plan.

Since 2006 the Viennese Waste Management Act stipulates that the waste management plan of the city of Vienna has to undergo an environmental assessment. This assessment allows evaluation and assessment of environmental impacts of waste management measures already during strategic planning. Using this instrument, eventual impacts on the environment can be detected at an early stage and can be taken into consideration during planning of measures. Moreover participation of the population and consideration of the results of consultations are stipulated by law. In case of major impacts on the environment of another member of the

European Union a cross border consultation is provided. The results of the environmental assessment have to be set up and published in an environmental report. From 1999 to 2001, the strategic environmental assessment "Viennese Waste Management Plan" was for the first time used voluntarily as a planning instrument. The strategic environmental assessment (SEA) was carried out as a "Round Table SEA" ,means that during the entire process representatives of the administration, of the Vienna Ombuds Office for Environmental Protection, of environmental organizations and experts in the field of waste management as well as in the field of human medicine were involved. During the process measures were recommended consensually that should guarantee security of disposal in Vienna. Thus, measures for waste avoidance were recognized as a useful instrument to solve the problem. At the same time the construction of additional treatment facilities (waste incineration plant and biogas plant) was recommended. Experience has shown that the following authorization procedures for the treatment facilities could be carried out faster than expected due to acceptance by the population and respectively because of the intensive planning. The results of the voluntary environmental assessment were taken into consideration during elaboration of the Waste Management Plan of 2002. In 2002, a project group for waste prevention was found consisting of members of several departments of the Vienna city administration. Since then the group has elaborated and realized measures for waste prevention through a program called "Naturally Less Waste". Big challenges of the program are the field of food and food packaging, of greening of events and of construction site waste.

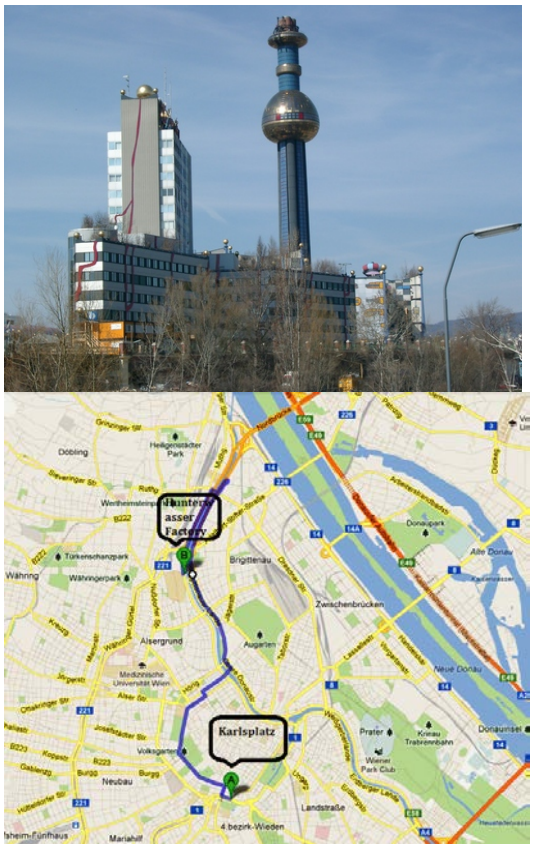

Figure 20: Hunterwasser Garbage Facotry, Dinstance from Karlsplatz, Source: googlemaps.com

The Waste Management Plan 2007 was as well elaborated during an strategic environmental assessment (Round Table SEA). For a year, representatives of the City of Vienna, of environmental organizations working Austrian wide, experts in the Field of waste management

and environment as well as in the field of social sciences participated in the process. Central issues remained waste prevention, guarantee of disposal security, optimization of separate collection and the declaration for local municipal waste management (general interest). Issues in the field of climate protection and conservation of resources were taken into consideration during all planning phases. The results were recommended consensually and incorporated in the waste management plan. After incorporation of the statements the process was finalized by the resolution of the Vienna Provincial Government.

The system that is most followed in the case of Vienna is the system for separate collection. The biggest advantage of it is that it remains flexible and is adapted on demands of the population and the recycling industry despite its success. Additionally, research is carried out constantly to optimize the process to increase quality and quantity. Furthermore, the collection system has been adapted due to changing consumer behavior.

The implementation of various measures in the field of waste management in Vienna such as waste incineration, collection of landfill gas for generation of electricity, separate collection of waste and composting has lead to major reductions of emissions of climate-relevant gases. Consequently these measures also contribute to reduction of consumption of primary raw materials, for example the substitution of natural gas by landfill gas due to the recovery (generation of electricity), substitution of fossil fuels due to the generation of energy (electricity and heat) during waste incineration, as well as substitution of mineral fertilizer (avoidance of climate-relevant emissions caused by production) by use of compost for organic agriculture. The use of compost from separately collected organic waste contributes directly to reduction of harmful gas emissions because of sustainable fixing of carbon in the soil and because of major reductions of nitrous oxide emissions. These substitution effects will lead to credits of CO2 in 2012.

In 2010, Vienna was awarded with the prize of “World City closest to sustainable Waste Management” for its achievements in the area of sustainable waste management.

4.1.5 Vienna's Green Spaces and forestry

Green areas define Vienna's cityscape since around 200 square kilometers or about 50% of the urban area is covered with bushes and meadows and shaded by treetops. The biggest percentage is attributable to the green belt, to individual gardens, to leisure and sport facilities, parks, allotments and the gardens surrounding housing developments. More particular, the 1st and 4th to 9th districts are not very green while the proportion of green space in districts 13th ,14th, 17th and 19th amounts to between 60 and 80 percent.

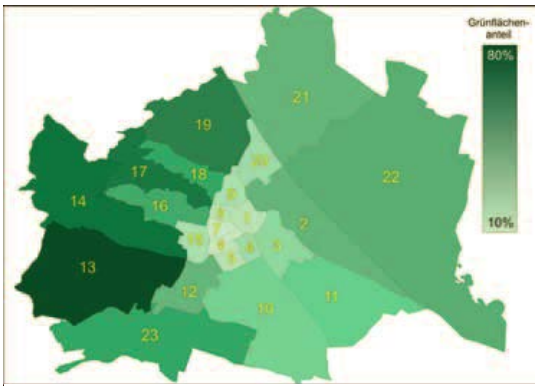

Figure 24: Vienna's wealth of green shown according to district, source: MD 22

4.1.5.1 Tools for protecting Green space

The most important tools for protecting green space are the decisions to zone it accordingly as well as to define or purchase areas. As part of the ongoing revision of the zoning and development plan, the areas shown in the "1995 green belt" as "priority landscape areas" are also protected systematically and continuously y zoning them as protected green belt areas as a matter of priority. The city of Vienna Municipal Department for Real Estate Management (MA 69) purchased a total of 1,310,000 square metres of green space in 2004. This included 1,200,000 square metres of woodland and some 320 hectares for source protection purposes outside Vienna. To create the infrastructure needed in the Nordbahnhof urban development area, an area of 29,000 square metres was purchased to be used as a park. In the 21st district, an area of 5,000 square metres was acquired to implement the city's landscape and free space scheme for the north east of Vienna. A further 4,700 square metres was purchased for the expansion of the Liesingbach (stream), which has made a substantial contribution to implementing the revitalisation scheme of the Municipal Department for Water Engineering (MA 45) to redesign the course of the Liesing. In 2005 the city purchased other 30500 square meters in total.

4.1.5.2 Parks and urban vegetation

Parks, avenues, grass verges or courtyards constitute islands of greenery in the middle of the city's build-up areas. The green space situation is continuously improved as the city is regenerated. New green areas and arks that are ideally suited as local areas for rest and relaxation enhance the living environment in very built-up areas. Green corridors link green areas in the city centre with the countryside on the edge of the city.

Figure 24: National Garden

As far as the Viennese parks and gardens are concerned, there are 2000 parks in the area covered by the city. Among others these include 17 historical parks, 13 international gardens, 20 landscape parks in former cemeteries, 13 themed gardens and 8 therapeutic gerdens. The Municipal Departement for parks and Gardens (MA42) lists a total of 45 major recreation areas in Vienna. The involvement of abutting owners in planning execution and subsequent maintenance like the citizens' involvement process, is of major importance. The close collaboration with the District Directors and local associations, the municipal department for Education, out-of-school activities for children and youth people (MA 13)-park maintenance/ mobile work for young people or the district maintenance teams should also be mentioned. The aim that the city of Vienna is striving for is the creation of transparent, translucent, airy, multifunctional facilities that take account of as many stakeholders as possible. The city of Vienna has tasked a total of 21 associations with carrying out parks maintenance/ mobile work for young people. The projects take place in children's and young people's immediate surroundings, predominantly in parks. The aim of improving the lives of socially disadvantaged children and young people is common to all the projects. Reinforcing their identification with public space- parks for example, also contributes to increasing their sense of responsibility. Positive effects are apparent in situations where children and young people are involved in the design or redesign of public spaces.

Some of the measures that the municipality of Vienna has taken are described here. First of all there is a close collaboration between the MA 22 and the environmental consultants and

ombudsmen; for example when planting young trees and bushes, when manufacturing and installing nesting boxes for birds or mulching wood chippings to improve soil fauna. It is also planned the "urban trees as a climatic factor" program, in which the city will register and help to the maintenance of the 100000 trees that exist along Vienna's street. What is more, there is a campaign to provide funding of up to 2200 € to encourage individuals to decorate their inner courtyards with various plants and to plant vegetation on their roofs. Moreover, environmentally compatible methods of cultivation are taught in some schools. Also, a workshop programme tailored to the biology curriculum and the Viennese environmental education programme EULE completes the environmentally compatible education programme.

4.1.5.3 Nature Conservation and Regulations

A city must satisfy many different demands and these demands change very rapidly and dynamically. In support of Sustainable development, the city of Vienna focuses on taking account of the city's residents' need to experience nature in addition to maintaining biological and scenic diversity. Nature conservation in Vienna has been developed from traditional, protective and reactive nature conservation to something that is active and preventative. I so doing, protection of that which is rare is supplemented by encouragement of that which is close by mandatory instruments such as "protection area allocations" by partnership based instruments such as the "nature conservation agreement". In July 2001, the EU Directive on the assessment of the effects of certain plans and programmes on the environment (SEA Directive) came into force. As a consequence to that, an amendment to the Vienna National Park Act was worked out. It rules that an environmental assessment must be carried out for the Vienna National Park Ordinance, the Area of Unspoiled Nature Management Plan and for the Hunting and Fishing Management Plans. At what the protection areas and Natural monuments are concerned, around the 30% of the area of Vienna is shown as protection areas under the Vienna National

Figure 25: Green space by Danube

Park Act. The national park is the strictest protection area category. The categories “protected landscape area” and “ecological development area” as well as :”natural monument” are used for smaller areas. Depending on the type of protection area, interventions are either forbidden or only possible to a limited extent. Four of these areas (Donau Auen National Park, Leinzer Tiergarten Nature Conservation Area, Liesing Landscape Protection Area and the Bisamberg) are also part of the Europe-wide network of protection areas “Natura 2000. In 2004 the Penzing and Ottakring Landscape Protection Areas were creates so the area designed as nature protection areas in Vienna has increased by some 1230 hectares. By 2005. Vienna had 427 natural monuments on its books. The vast majority of these are large individual trees, groups of trees, areas of special significance for fauna and flora as wellas geological outcrops, watercourses and the remnants of alluvial forests also benefit from this protection. Under § 15 of the Vienna Nature Protection Act 1998, the provincial government has to draw up a species and biotope protection programme. As a result, nature conservation guidelines have now been drawn up for the following districts: 2/20, 10, 11, 13, 14, 16/17, 18/19, 21, 22 and 23. Implementation projects have been carried out parallel to working out these fundamentals. What is more, the city of Vienna introduced to the citizens the Biodiversity day to raise awareness of the fact that an astonishing biodiversity exists also in the city. Since 1982 and until 1989 the city collected the data for the Viennese biotope mapping programme. After that, more areas of the city of Vienna were included in this mapping program like Florisdorf in 2004. At the end of the 1990s, the nature conservation agreement that is a new method of implementing nature conservation measures was created. It involves the conclusion of voluntary agreements under private law. Any loss of income or additional expenditure is compensated financially.

4.1.5.4 2005: The Green Belt Protection Area celebrates its 100th Birthday

The Vienna green belt, the creation of which as a “belt composed of woodland and meadows with a mountain road” was resolved by the Municipal Council on 24 May 1905 and which then amounted to 6,000 hectares now encompasses 30 per cent of the entire urban area as areas designated as green belt protection areas and green belt agricultural protection areas. The protection of agriculture is an important goal since the green belt gets its diversity and identity from various forms cultivation (e.g. viticulture). On 29 November 1995, the Municipal Council adopted the “Vienna Green Belt” plan. This encompasses not only all existing and planned green belt protection areas but also major parks, the Central Cemetery, etc. – in total 19,260 hectares. For the 100th birthday, various measures were undertaken to create awareness of the

importance of the green belt. These included aids for project-oriented teaching in schools but also measures to open up the green belt more. Examples of these include the "rundumadum" trail, which is 120 kilometres in length and leads through five typical landscapes or the new cycle path along the Mauerbach (stream) from Hadersdorf to the city limits.

A new and important task for MA 22 is to take account of environmental aspects in developing roads. Travelling on foot or by bike should not be viewed as a tedious way of getting from A to B but as something positive, as spending time in public space. Investigations have demonstrated the importance of vegetation not just as a valuable design element but also its positive effect on temperature, dust (encouraging it to settle), humidity and on the habitat for many animals. The Haberlandtgasse in Vienna's 22nd district where the original "road project" was developed into an "environmental project" is a successful example of cooperation with MA 28, Wiener Linien, the fixtures department and representatives from the district. The pavement now "snakes" between the trees to take better account of the vegetation. Newly planted trees emphasize the road's village character.

4.1.5.5 Woodland (Federal law consolidated: Total legislation for the Forest Act 1975, as amended on 06.01.2012

With a total area of around 8000 hectares, which equates to 18% of the total area, the city of Vienna has a relatively high proportion of woodland in international terms. With the urban woods, the source protection forests in Lower Austria and in Styria and the areas used for agriculture, the city of Vienna's Forestry Office (MA 49) looks after a total area of some 43000 hectares, which equates to roughly the area of the city of Vienna. There are no specific statistics about the land tenure in the city of Vienna, but we consider that is about the same as in the whole country, so 1/3 of the forests is owned by small companies, 15% by the Republic government and managed by the Bundesforste (Federal foresters) and the rest is owned by local farmers.

According to the Federal law: " *The forest and its effects on the habitat of humans, animals and plants is an essential foundation for ecological, economic and social development in Austria. Its sustainable management is made for securing its multifunctional effects on use, protection, welfare and recreation.*" The purpose of the Federal law is to preserve the forests and to ensure forest treatment that the productive capacity of the soil will remain and last but not least to ensure sustainable forest management. The definition of the Sustainable forest management is: " *Sustainable forest management under this Act means the care and use of forests in a way and*

in a manner that maintains their biodiversity, productivity, regeneration capacity, vitality and potential is permanently maintained to current and future environmental, economic and social functions at local, national and global levels without damaging other ecosystems to meet. In particular, make provisions for use of the forest, taking into account the long-term forestry production period, and possibly existing plans that remain subject to utilization of the forest in accordance with the objective of future generations."

In the second section of this art by the title of : forest planning tasks of forest land use, there are presented the plans that are implemented and the appropriate land uses for the forests. More particularly, the Act defines the followings:

- § 6 (1) The task of planning for the forest habitat (forest land use planning) is to present and advance planning of the forest conditions of the federal territory or part thereof.

(2) To fulfill the tasks specified in Section 1, the presence of forest on such a scale and in such a condition is desirable, namely, that its effects

a) the net effect that is particularly the economically sustainable production of wood raw material
b) the protective effect that is particular to the protection against natural hazards and harmful environmental influences, and the conservation of soil strength against avulsion and drift, debris formation and landslides,
c) the welfare effect is the impact on the environment, including in particular the balance of climate and water balance, on the purification and renewal of air and water,
d) The recovery effect, which is particularly the effect of the forest as a recreational area on the forest visitors

best come to the fore and safeguarded.

(3) To achieve the objectives of forest land use planning must be carefully taken particular care that

a) in areas with concentrations of residential and work sites of road surfaces and the spatial arrangement and design shall be designed in the woods so that the protection, welfare and recreation impacts of the forest are guaranteed;
b) in areas which have the protection and welfare effects of the forest a special significance, as it should be available as floods, avalanches or wind protection or water storage, an appropriate spatial

structure of the importance of the forest.

(4) As part of the forest land use planning, the coordination of all is to strive for and are eligible for this important public interests.

- Extent of forest land use planning

§ 7 The planning for the forest habitat has to extend

a) the presentation and planning of forest areas

- ✓ First: with predominant net effect of forest areas with special reference to suitability to high raw material production,
- ✓ Second :with predominant protection, welfare or recreational activity, such as protection or forest preserves, or forests, which protect against emissions including noise
- ✓ Third: Recreation areas, special measures for protection against emissions require

b) the presentation of

- ✓ First :Catchment areas of torrents or avalanches,
- ✓ Second: wildbach or avalanche danger zones and related
- ✓ Third: Forests with a special habitat in accordance with § 32a,

c) on the planning of the

- ✓ First: Afforestation on Hiezu approaching stationary surfaces and planting for the purpose of wind protection, landscaping and improving the water balance, particularly in wooded areas,
- ✓ Second: Demarcation between forestry, agriculture and alpine farming, where, as is advantageous in the combat zone of the forest, for a better development of the effects of the forest.

- **Forest land use plans**

§ 8 (1) in the forest land use plans are the obvious facts and trends that determine the conditions of the forest planning area and influence, with due regard to the provisions of § § 6 and 7

a) cartographic and textual display (plan preparation) and

b) these representations of the respective actual development in the planning area to adapt.

(2) Forest land use plans are

a) the forest development plan (§ 9),

b) the Forest Plan (§ 10)

c) the danger zone plan (§ 11).

(3) Detailed rules on the content and the form and structure of forest land use plans adopted by the Federal Minister for Agriculture, Forestry, Environment and Water Regulation.

- **Forest development plan**

§ 9 (1) The forest development plan covers the whole of Austria (Plan) and is composed of sub-plans.

(2) The part of the Governor has planned to create. The plan has thereof to the area of a province or parts to cover. To prepare the forest plans are only part of foresters (§ 105 paragraph 1 item 3) authority.

(3) If a partial plan for the reason of all the planning are conveniently created only when a partial plan of the neighboring province is continued, or to an already existing part of plan to continue for the same reason in the neighboring state, then the Federal Minister for Agriculture, Forestry, Environment and Water Management for the later part of the required uniform design plans foresee.

(4) In part, the effects of the forest plan to hold especially in consideration of their importance to the community, in accordance with § § 6 to 8. The plan is broken down into a piece of text (description) and a card part (presentation).

(5) The Governor shall examine, at its request Forest Plan on the admissibility and appropriateness under the provisions of this section and in the event that the outcome of the review is no cause for concern,

a) take part in the plan or, if such is not available,

b) make as part of plan for the area applied.

(6) The Sub-Plan and its adaptation to the respective actual state of development require the approval of the Minister of Agriculture, Forestry, Environment and Water. This is granted if the plan complies with the provisions of this section, and takes care of part of existing plans of neighboring states. Before obtaining the consent of the Governor shall obtain an opinion of the country from the standpoint of the national land use planning. After the approval of the Minister of Agriculture, Forestry, Environment and Water Management of the Governor has put

the plan to eligible county administrative note. These have to hang up the plan in their office premises during office hours for public inspection and this made public in an appropriate manner. Everyone is entitled to take in the plan.

- **Forest Plan**

§ 10 (1) The Forest Plan is one of the forest owner or of relevant parts therefor has created forest plan, the representations and plans for the area of interest of the planning volume.

(2) For the development of the forestry community forestry plan, and Civil Engineers of Forestry are authorized.

- **Hazard zone maps**

§ 11 (1) To create the danger zone plans and their adaptation to the current state of development of the Federal Minister for Agriculture, Forestry, Environment and Water Management in fees for services pursuant to § 102 paragraph 1 is responsible.

(2) The danger zone plan, the wild brook and avalanche-prone areas and their degree of risk as well as those areas are present, for a particular type of management or control systems for their future protection is required.

(3) The draft of the hazard zone plan the mayor has to be transmitted to and from this hang up by four weeks in the community for public inspection. The launch shall be made public in public.

(4) Any person who can demonstrate a legitimate interest, be granted, is entitled to file within the launch period on the draft of the danger zone plan in writing. This provision is included in the publication (paragraph 3) must be expressly stated.

(5) The draft plan is the danger zone by a committee (para 6) to check on its technical accuracy and amend where necessary, delivered on time submissions (paragraph 4) shall in this connection to consider.

(6) The Commission shall consist of one representative of the Minister of Agriculture, Forestry, Environment and Water Resources as chairman and one member from each lit in accordance with § 102 para 1. A relevant department of the country and the community. The Commission takes its decisions by simple majority of votes in a tie, the vote of the chairman.

(7) The Minister shall approve the draft considered by the Commission of the danger zone plan if the provisions of this section does not preclude it.

(8) The lit in § 102 para 1. b department referred the approved Flood Risk Maps available for inspection and taking copies have hanging up. Each piece is a direct the concerned authorities and district authorities to make available.

(9) In the case of changing the fundamentals or its assessment of the danger zone plan to the changed conditions must be adjusted. In the method, shall apply mutatis mutandis.

An example of good practice at it was mentioned before, is the annual action of reforestation of the Vienna Forest Department (Forstamt Wien). With the help of the Viennese population and schools, a few thousand of trees and bushes are planted each year in areas with little forestation. Also important is to mention that all the subsidies are managed by the chamber of agriculture (Landwirtschftskammer Österreich). As it is shown in the text of the federal law, every 10 years there are new Forest Development plans produced based on orthophotos and site inspection and with accuracy in the range of meters. The product of the processing is the map of the forests. To sum up, the basic management tools that the Federal Government uses seem to be:

- Heavy protection of forest against clearance without reforestation

- Creation of business plans every ten years with corresponding maps and control of the implementation

Data and Figures on The Vienna Woods
• 2390 hectares indigenous wood reservation(10% of the woodland area for which MA 49 is responsible) • 221 hectares indigenous woods in Vienna • 8532 hectares urban woods • 32471 hectares area in source protection forests • 2600 hectares used for agricalture • 43603 hectares area managed bythe Forestry Office in total • 18% if the urban area in coverted with woods • Five large woodland and recreation areas in the Viennese urban area • Special programs for wind screen strips and meadow maintenance programs • Gene conservation program for rare trees and shrubs (sorb-tree, wych elm, holly, yew, wild roses) • Use that is not harmful to nature

Table 7 Source: "Vienna's Green Spaces", MA 49

4.6 Housing and Building Codes

The latest trend in urban development planning is called "Smart City" and Vienna is already a leader of this new planning policy. According to this new trend, there are breakthrough implementations for building codes. For example, the new urban structure demands high building densities, mixed land uses, energy efficient buildings "Green Buildings" and solar panels. In support of this new trend, the municipality of Vienna elaborates the largest, single urban development in Europe, the Aspern Lakeside that will be thoroughly described in the following chapter.

The Austrian building laws contain the most important procedures for implementing spatial planning targets. As for the land use and zoning planning, the most important authority for construction is the Municipality. The mayor (Bürgermeister), the building authority (Baubehörde) and the municipal council (Gemeinderat) are the first instance of appeal. The first requirement for the construction of a building is a building permit grated by the municipality, whereby the main part of the procedure is the building project hearing. A building permit is

required for all new constructions, additions and conversions of buildings as well as for numerous other measures related to real estate that could concern neighbors or public interests (PLUREL Deliverable Report,2010) .

In mid 1990s Vienna had to respond rapidly to the steep rise of the population by housing construction. From 1994-2000, housing construction generated an average 10000 subsidized and some 1000 to 15000 non-subsidized housing units per year. After 2000 until now this number has dropped to 6000 housing units. The main construction activity took place in the 21st and 22nd (northeast)and on the 10th , 11th and 23rd districts (south).the strongs drive to develop the inner districts led to a substantial increase in housing construction also in the more densely built-up urban districts such as in the 2nd, 15th, 16th, 17th and 20th. The city of Vienna should continue building subsidized housing at an average around 6000 units per year for the following reasons:

- A wide variety of housing types would make Vienna even more attractive as a residential location
- Balance between supply and demand promotes affordable prices even for the historic buildings
- Urban renewal, urban enlargement and inner urban development should be carried out parallel, therefore the concept of soft urban renewals should continue to represent a focal point of housing policy in addition to the necessary construction of new residential housing
- Urban structures require a meaningful mix of uses for residential and economic purposes. Therefore, in newly settled areas it is crucial to have a minimum share of housing units.
- Residential construction secures jobs in Vienna which are not expected to be at risk over medium term

To continue guaranteeing affordable housing in Vienna up to contemporary standards, an adequate supply must be ensured through the construction of subsidized housing units; otherwise it might not be possible to satisfy demand for affordable housing. Based on current projections of demand for housing, a plan was adopted to build some 28,000 subsidized housing units over the next five years. There are also plans to subsidize the construction of housing units in the older Gründerzeit (built in the period 1850- 1914)

districts. Even though property prices are higher in these districts, it is possible to use the existing infrastructure and encourage a social mix. To meet the objectives of sustainable development it is important to use as little building land as possible for the expansion of settlements and for new residential construction. Furthermore, the focus of development should be on areas accessible by high-capacity means of transport and for high density construction. This applies to new projects and to highquality fallow land in densely developed urban areas. It would only be meaningful to further intensify uses in densely-built up urban areas if the available supply of green and open spaces is sufficient.

Compact city

Within the outer demarcation of building zones, the Scheme for the Settlement Development for Vienna defines three target categories of building density:

- Multi-storey buildings with at least three to four stories are specified for the densely-built up urban zone. For central areas accessible by high-capacity public transport the targeted building density is even higher.
- The second category defines settlement axes/concentrations. These areas are adjacent to the densely built-up urban zone and are accessible by high-capacity public transport. This category is earmarked for medium scale building density.
- The third category includes areas of low density building. This area is dominated by loosely built-up spaces and by a high proportion of green space with single-family homes and smallholdings in the areas bordering landscapes.

In addition to these zones, there are some points of interest to be protected:

- Protection of historic buildings in Vienna
- Protected zone according to the Vienna Building Code
- UNESCO Cullural Heritage (Schönbrunn Palace, city center)

Densities (Measured by net floor space index (NFSI): floor space attainable in relation to net area of land zoned for building)

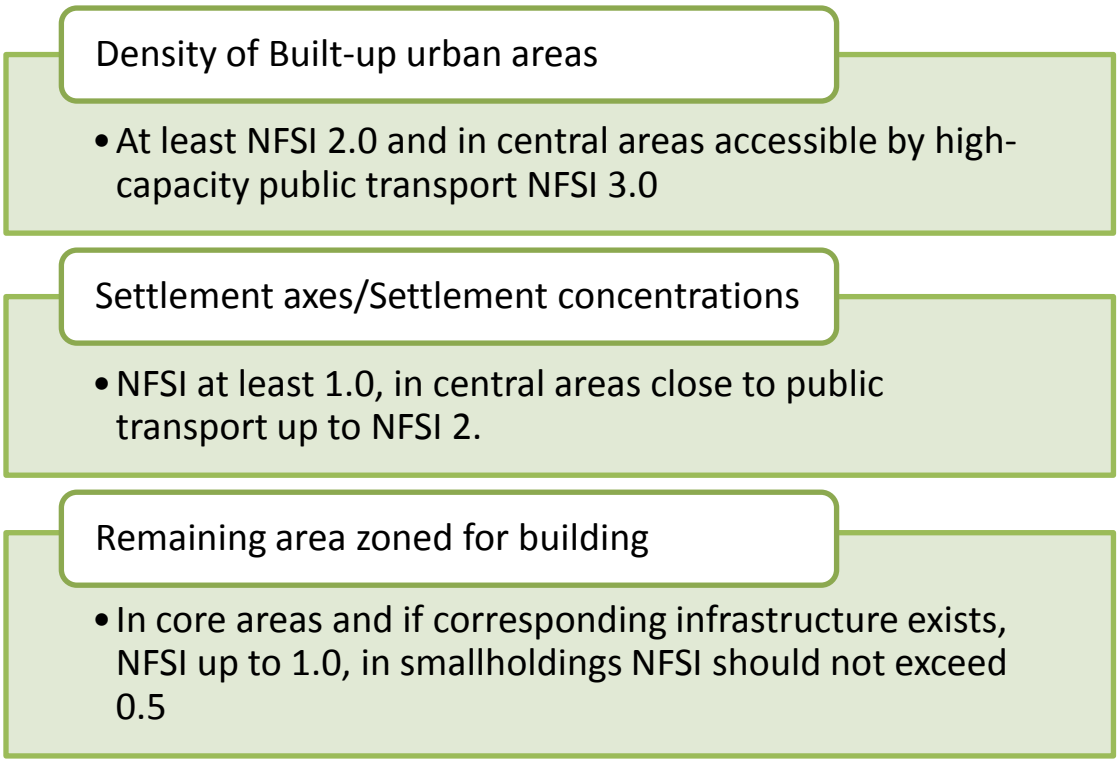
Density of Built-up urban areas
• At least NFSI 2.0 and in central areas accessible by high-capacity public transport NFSI 3.0
Settlement axes/Settlement concentrations
• NFSI at least 1.0, in central areas close to public transport up to NFSI 2.
Remaining area zoned for building
• In core areas and if corresponding infrastructure exists, NFSI up to 1.0, in smallholdings NFSI should not exceed 0.5

Table 8

Κεφάλαιο 5ο: Η περίπτωση της Ασπερν

Μια εφαρμογή όλων των σχεδίων που περιγράφηκαν παραπάνω είναι η ανάπτυξη της περιοχής Άσπερν που βρίσκεται στο 23ο δημοτικό διαμέρισμα της Βιέννης. Σημαντικό είναι να τονίσουμε ότι η Άσπερν μέχρι το 1977 λειτουργούσε ως αερολιμένας ενώ έπειτα πολλές εταιρείες εγκαταστάθηκαν στην περιοχή. Το 1992 έγινε η ακούστηκε η πρώτη άποψη για αστική ανάπτυξη της περιοχής και μέχρι σήμερα έχουν γίνει πολλές αλλαγές.

Αρχικά, όσον αφορά το σχέδιο STEP05 για την αστική ανάπτυξη, η Άσπερν ανήκει στις περιοχές κλειδιά για την ανάπτυξη και συγκεκριμένα η ανάπτυξη της παραλίμνιας αυτής περιοχής είναι ένα από τα μεγαλύτερα σχέδια της Ευρώπης. Σκοπός είναι να εξισορροπηθούν στην έκταση των 240 εκταρίων οι προσωπικές και επαγγελματικές ανάγκες των κατοίκων. Η περιοχή λειτουργεί ως οικονομικό κέντρο αλλά και επιχειρηματικό, ερευνητικό και εκπαιδευτικό. Προσφέρει τις ίδιες λειτουργίες με την πόλη αλλά ταυτόχρονα πολλούς ελεύθερους χώρους και άμεση επαφή με την φύση. Ακόμη χρησιμοποιούνται νέες μορφές ενέργειας για την θέρμανση και τον ηλεκτρισμό αλλά και νέες τάσεις της αρχιτεκτονικής ανθίζουν ιδιαίτερα στην περιοχή. Επίσης ιδιαίτερη ρποσοχή έδειξαν οι σχεδιαστές στο να φτιάξουν σχέδια με μεικτές χρήσεις γης. Κύρια ιδέα του πρότζεκτ αυτού είναι η ύπαρξη τεχνητής λίμνης και μεγάλου κεντρικού πάρκου. Η διαδικασία για την ανάπτυξη της περιοχής άρχισε τον Μάρτιο του 2004 όταν και τα νοικοκυριά της περιοχής έλαβαν ένα ερωτηματολόγιο από τον δήμο της Βιέννης για της αλλαγές που πίστευαν πως έπρεπε να γίνουν στην περιοχή αλλά και πληροφοριακό υλικό για τιε επικείμενες αλλαγές. Τον Απρίλη έγινε δημόσια συζήτηση επί του θέματος και έτσι ύστερα από μελέτες και άλλες συζητήσεις με τους κατοίκους ξεκίνησε το σχέδιο. Μέχρι το 2009 έγινε η Εκτίμηση Περιβαλλοντικών Επιπτώσεων και οι εργασίες μπορούσαν να αρχίσουν. Το 2010 άνοιξε ο σταθμός του μετρό «Ασπερναστρασε», εκδόθηκε το τελικό σχέδιο για την λίμνη και το παρκο και τα πρώτα κτίρια αρχισαν να κτίζονται. Το σχέδιο θα έχει ολοκληρωθεί μέχρι το 2030. Είναι φανερό πως ο χρονικός ορίζοντας του σχεδίου είναι αρκετά μεγάλος με κίνδυνο να μην μπορούν να γίνουν εκτιμήσεις για μακροπρόθεσμες κοινωνικές, πολιτικές ή οικονομικές αλλαγές. Γι’ αυτό και ο σχεδιασμός δεν είναι καθολικός αλλά γίνεται σε μικρά στάδια ώστε να είναι ευέλικτος στις πιθανές αλλαγές.

Όσον αφορά στο σχέδιο CENTROPE, η θέση της Άσπερν είναι καθοριστικής σημασίας καθώς βρίσκεται σε κομβική θέση ανάμεσα στις δύο πρωτεύουσες, την Βιέννη και την Μπρατισλάβα. Ακόμα αναπτύσσεται με οδηγό την μείωση των αποστάσεων μεταξύ των βασικών λειτουργιών της πόλης, την συνεργασία με την ευρύτερη περιφέρεια και την προτεραιότητα στα ΜΜΕ κάτι που θα οδηγήσει στην αύξηση της βιωσιμότητας όχι μόνο για την πόλη της Βιέννης αλλά και ολόκληρης της ευρύτερης περιφέρειας.

Ιδιαίτερες αλλαγές και εφαρμογές έγιναν και με βάση το συγκοινωνιακό σχέδιο. Στον βασικό σχεδιασμό είναι εμφανής η εξάρτηση της πόλης από τα δημόσια μέσα μεταφοράς, το μετρό, το τραίνο, τα λεωφορεία και το δίκτυο του τραμ. Ακόμα προτεραιότητα δόθηκε στην εύκολη πρόσβαση των πεζών και των ποδηλατιστών στα μέσα. Η περιοχή βρίσκεται 20 λεπτά μακριά από το κέντρο της Βιέννης , ενώ η απόσταση από το κέντρο της Μπρατισλάβας με το περιφερειακό τρένο είναι 34 λεπτά. Σύμφωνα με το σχέδιο η στάθμευση των ΙΧ θα γίνεται σε υπόγειους χώρους που όμως λόγω μεγάλης συγκέντρωσης υπόγειων νερών στην περιοχή μπορούν να υλοποιηθούν το πολύ 2 μ κάτω από την επιφάνεια του εδάφους. Τέλος, κύριος σκοπός είναι η ελαχιστοποίηση της κίνησης των μηχανοκίνητων μέσων κατά μήκος του Δούναβη.

Το ιδιαίτερο φυσικό τοπίο της περιοχής, κυρίως λόγω της γειτνίασης της με το Δούναβη το Μαρτσφελντ, βρίσκεται σήμερα σε ισορροπία με τα αστικά πάρκα, τα οικοδομικά τετράγωνα και τους δρόμους και σκοπός του Δήμου είναι να μην διαταραχθεί αυτή η ισορροπία. Μεγάλοι «διάδρομοι» πρασίνου έχουν ήδη σχεδιαστεί για την προστασία του φυσικού τοπίου, αλλά και ελεύθεροι χώροι για τις δραστηριότητες των κατοίκων. Ο πιο σημαντικός σχεδιασμός όμως είναι η δημιουργία του κεντρικού πάρκου με την τεχνητή λίμνη. Επιπροσθέτως, απαραίτητος είναι και ο σχεδιασμός μικρών πάρκων τοποθετημένων στις γειτονιές της περιοχής.

Το τμήμα του δήμου που ήταν υπεύθυνο για αυτό το σχέδιο ήθελε να δώσει παλμικότητα στην πόλη αλλα και ποικιλία χρήσεων. Έτσι τα περισσότερα κτίσματα σχεδιάστηκαν κοντά σε ελεύθερους δημόσιους χώρους. Ακόμα προτεραιότητα δόθηκε στην δημιουργία μικρών αποστάσεων μεταξύ των χρήσεων αλλά και ικανοποιητικό βαθμού μείξη των χρήσεων αυτών που βοηθάει συν τοις άλλοις στη δημιουργία περισσότερων χώρων ψυχαγωγίας. Οι χρήσεις που έχουν να κάνουν με εμπόριο και εργασία είναι χωροθετημένες κυρίως κοντά στους σταθμούς του μετρό. Οι άλλες χρήσεις που ορίζονται από το μαστερπλαν έχουν να κάνουν με κοινωνικές και πολιτιστικές λειτουργίες της πόλης, εστίαση και χώρους ψυχαγωγίας. Δεν

ορίζονται από το γενικό σχέδιο τα ύψη των κτιρίων αλλά κάποιες βασικές αρχές για τον ορισμό της σχέσης μεταξύ των ψηλότερων και χαμηλότερων κτιρίων. Ακόμα η πόλη του σήμερα απαιτεί μεγάλη πυκνότητα κτιρίων και στην συγκεκριμένη περιοχή ο συντελεστής πυκνότητας είναι περίπου 2.2 . Ο δήμος θα εκδώσει νέα σχέδια αποκλειστικά για την θέσπιση των οικοδομικών κανόνων κατά τη διάρκεια του σχεδίου.

Συνοψίζοντας παρατηρούμε ότι η πόλη έχει δομηθεί σύμφωνα με σκοπό την ύπαρξη βιωσιμότητας στην περιοχή. Η ελαχιστοποίηση της χρήσης του ιδιωτικής χρήσεως αυτοκινήτου είναι η μεγαλύτερη πρόκληση για τους σχεδιαστές. Για την μείωση των επιπτώσεων από την δημιουργία ενός νέου τοπίου στο περιβάλλον, αποφασίστηκε η δημιουργία «οικολογικών» κτιρίων τα οποία δεν απελευθερώνουν ενέργεια στο περιβάλλον. Ακόμα πρωτότυπη είναι και η χρήση γεωθερμικής ενέργειας για της ανάγκες των κτιρίων σε θερμότητα και ζεστό νερό γεγονός που μπορεί να οδηγήσει στην προσέλκυση επιχειρήσεων ή μελετητικών εργαστηρίων σχετικών με αυτού του είδους την διεργασία. Τέλος, η συλλογή των απορριμμάτων πρεπει να γίνει με τρόπο τέτοιο ώστε να ελαχιστοποιηθέι το ποσοστό των ρύπων λόγω ήχου και σκόνης.

Chapter 5: Aspern Lakeside

A good example of the practices of all the above plans that took place in Vienna the last 10 years, is the Aspern Project. There are implementations due to the STEP05 as being a key area of action for Vienna's urban development, to the CENTROPE as it will be the center of the Region, to the Traffic masterplan because of the expansion of the Metro network, to the Green Belt, the solar plan and the climate plan. With the main changes for this place, the area will be used for research, trades and residence and it will be regionally oriented. The Apsern lake city (Aspern Seestadt) as it is called, is a part of the Danube City and belongs to the 22nd district of Vienna. Some historical facts are following:

Figure : Aspern

Since 1904, Aspern was an independent congregation but now is a suburb of Vienna's 22nd district, Danube City (Donau Stadt), as well as the 89 cadastral Vienna. A small part of Aspern belongs to the 2nd District, Leopldstadt. Aspern lies among Lobau, Stadlau, Breitenlee, Essling and Hirschstetten. The cadastral district covers an area of 2012.87 hectares, of which 24 hectares belong to the district of Leopoldstadt. The area of Aspern is one of the oldest residential areas in Vienna, the first mention of the place was in 1258 as Aspern. During the Turkish siege of 1529 and 1683 the village was damaged. In 1904, the Aspern was greatly influenced by farming as part of the new 21st District of Vienna, Florisdorf. In 1938 the district came to 22 District of Center Enzersdorf, a part of the new Greater Vienna. Since 1954, Aspern with seven other communities, shapes the district of Danube's city. In 1912 the Aspern airfield was opened. This was until the Second World War a center of the Austrian civil and military aviation. After the war the airfield was used by the Russian occupying forces. In 1977 the airfield was closed. The first Urban Development Project took place in 1992, and it was planned for 10000 residents and 6000 jobs. The EU enlargement to the east, a renewed growth of Vienna and decisions for the expansion of subway and highway to the airfield has since created a new framework for a denser and urban district.

The main goal of the Municipality is to make the large development area U2 – Donaustadt-Flugfield Aspern a complete city center with regional links. A number of major pilot projects are realized here to enable a significant increase in the number of housing units, inhabitants and jobs. The most important requirement is the link to subway line U2 and the belt road S1.

First of all, it would be important to attach a figure showing the procedure for planning a new area –city part

The planning Procedure

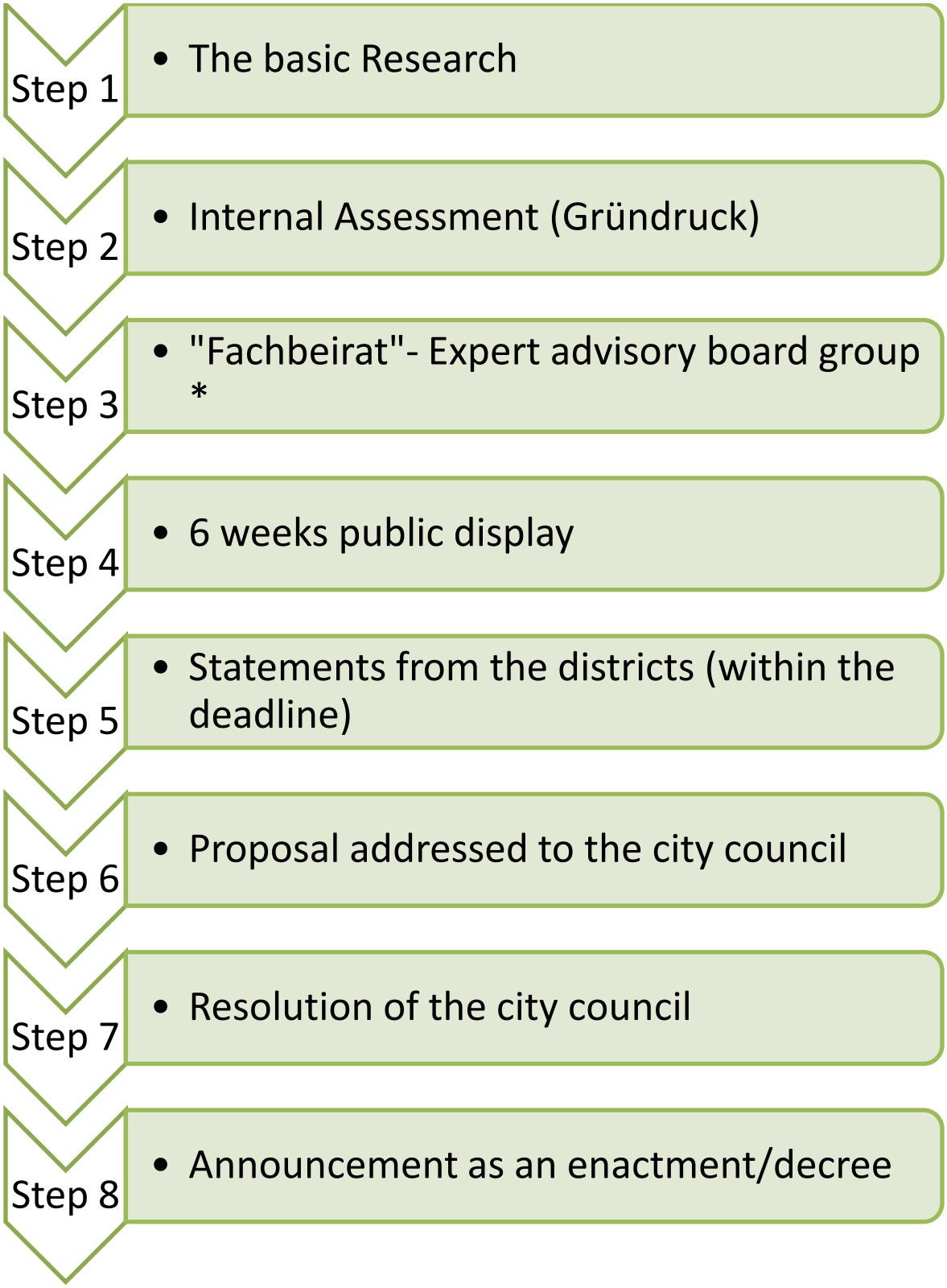

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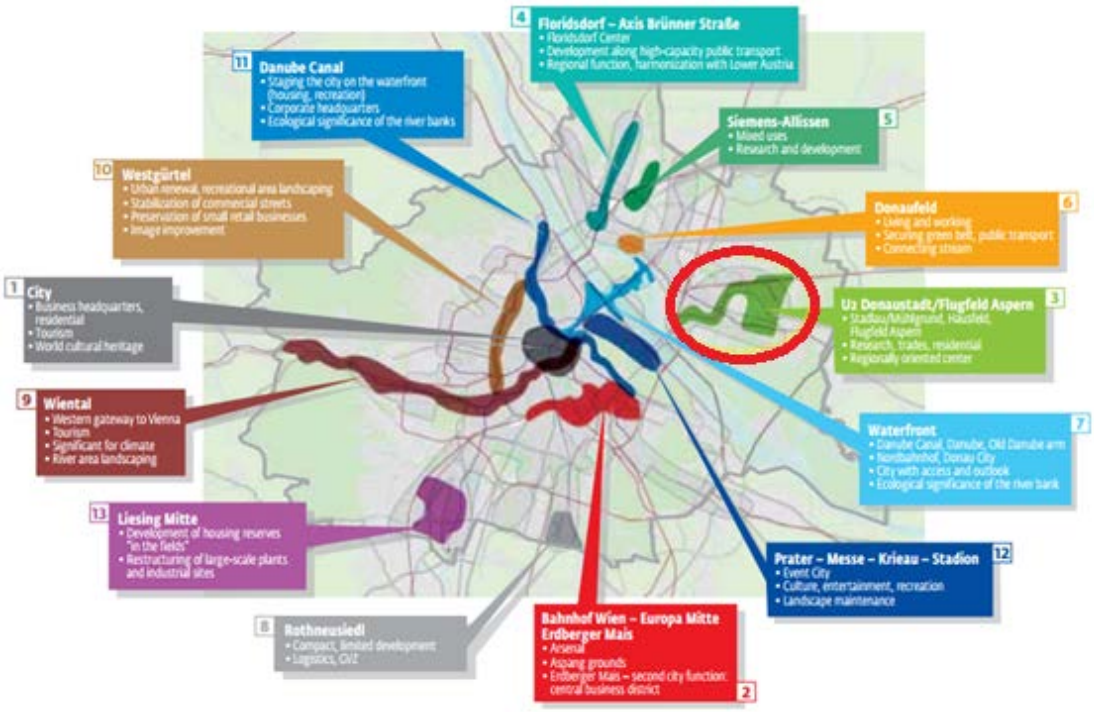
Figure 22:planning procedure

1. Sometimes an environmental impact assessment is necessary.
2. StEP ("Stadtentwicklungsplan" – Urban Development Plan) is a basis for zoning plans. Target areas are prioritized.
3. Usually zoning plans are changed on the occasion of any request.

5.1 Step 05

A new concept that was introduced by the municipality of Vienna is "the Key Areas of Action". According to this, there is a huge change in the presentation of the intentions and working methods of urban development. These changes include the selection of specific parts of the city in which the city will have to focus more attention in the coming years due to their situations or the changes expected. It does not matter whether it is a special set of problems that will have to be dealt with or if the district has outstanding development potentials and opportunities that should be taken advantages of for the sake of the entire city. Suitable forms of participative planning will be used commensurate with the size and structure of the key area of action. When urban development measures are taken in the key areas of action, innovations in climate protection and energy conservation must be applied in accordance with the goals of KLiP (climate protection program of the City of Vienna) which include the advancement of district heating, alternative energy sources, higher thermal insulation standards, passive energy buildings, also for commercial buildings, "climate model areas" as pilot projects, etc. The

assurance of the quality standards for urban settlement development and landscape design will continue to be attained by holding calls for tenders.



Key Areas of Action 1

Aspern Lakeside is one of the largest urban development projects in Europe. As an urban vibrant center, enriches the already high quality of life in Vienna. It creates the balance between personal needs and professional requirements. The planning area covers 240 hectares that is equal to the common area of the 7th and the 8th districts. The city is building in several phases and over a period of at least 20 years. Vienna's Urban Lakeside offers much and combines a financial center, business center and high-tech science, research and education. It offers what a city can offer and at the same time here exist many public spaces and it is very close to the nature. What is more alternative ways of energy are being used and modern architecture is blooming. There are innovative "town houses" instead of block apartments, with ground floor shops and restaurants instead of having one single use. It is also planted in support of the idea of the "open minded city" that fulfills different functions. The main goal is to build a livable and exiting city and this is made through the mixing of specific uses and the interplay of different

factors. The main idea of this project is the lakeside. The lake covers 50000m2 of a 90000m2 large central park. Along to the lake, there are many waterways, linear green spaces, footpaths and cycleways. In the northern part of the city will contain the future urban shopping street at the train station while the southern shore is naturally designed to offer space for various recreational, sporting, cultural and recreational activities.

5.1.1 Development Phases

The surroundings of the former airfield are characterized by wide landscapes and open spaces, but also by a near lack of the necessary infrastructure. It is obvious that the population of the living on-site was and will be affected by the project. A special concern of the planners and political decision makers was to involve these citizens in the upcoming projects. In March 2004, the households in the area surrounding the former airfield were mailed information folders containing a questionnaire. The folders served the twofold purpose of providing comprehensive information and at the same time learning about the worries and concerns of abutters, discussing these and integrating thus articulated needs into the plans. In April 2004, the findings were presented and discussed at a public event. Upgrading public transport, prioritizing pedestrians and cyclists, avoiding short cuts through the surrounding communities – these were the key topics addressed at the event. Suggestions were collated, discussed and defined as frame conditions for the planning process. Moreover, three "local experts" were chosen. These persons were living near the former airfield so their knowledge of and close ties to the area enabled them to provide additional input for the planning process to enhance practical everyday use of the future city quarter. They monitored further planning steps, participated in the drafting of the tender documents for the planning team selection procedure and also sat on the evaluation commission as voting members. After conclusion of the procedure, they were involved in actual master plan development and thus

Figure 23: Construction in Aspern

directly influenced the ongoing discussions. Lastly, after the first urbanistic draft for the master plan had been submitted in May 2006, it was presented together with the transport and traffic projects for the area and discussed with the project team, master plan developers and traffic experts. Moreover, local inhabitants' ideas and proposals could likewise be articulated and suggested on-site. In June 2006, an additional citizens' meeting on developments for Aspern Airfield was organized.

Apern Lakeside is the largest urban development in Vienna and is therefore built in several stages over at least 2 decades.

Figure 24: Aspernstrasse Metro station

- First Stage (2008- 2017): the development company Wien 3420 AG built the green spaces, the central lake and the technical infrastructures (roads, sewer, etc), thus making the push for the development of the seaside town. In the first large-scale expansion creates a mixed quarter with approximately 2000 residential units, that is about 240000 m2 of gross floor area, in addition, there will be offices, retail and service companies and research and development facilities. The large volume guarantees to the local supply and the desired mix of uses form the beginning. The phase is the opening of the subway station "Aspernstrasse". In 2011, two more stations started operating.
- Second Stage (2017- 2022): the train station and a connection to the existing A23 road performance through a city are created. More residential and mixed neighborhoods and the train station and business district in the north of the area occur.
- Third Stage (2022- 2030)in this phase, further densification and urbanization taking place around the station, the shopping street and the subway line. To optimize the mix of uses and for the settlement of other high quality businesses, cultural and recreational facilities, a number of attractive areas deliberately kept free, temporary uses to be replaced.

More specifically, the time schedule, after the planning procedure of the city of Vienna that is presented above, of the project is the following:

2008/2009: The first environmental impact assessments took place. The project was ready to be implemented. The first pioneer companies and research facilities moved in. The green space design was initiated at an early date, but further development steps went hand in hand with the establishment and upgrading of the high-level and transport infrastructure.

2010: The underground line U2 was extended to Aspernstrasse station. The central park with its lake was laid out and the first flats, kindergardens and schools were built. Meanwhile, a local center with shops and social meeting-points was developed and the first cultural and educational facilities moved in.

2013: The U2 line will operate 2 stations on the former airport. The northern station will offer interchange options with the suburban train line(S-Bahn) and the trains of the Austrian Federal Railways.

2016: The A23 motorway will be completed and linked to the Hirschstetten junction. More flats will be ready for tenants and at the same time the office and service sector will begin to take roots.

2018: The regional ring around Vienna will be completed. The central zones will be evolving and service facilities and urban mixed-use zones will endow the former airfield.

Until 2030: The project will be completed.

However, it is obvious that in such a big period of time, may the economic and social frame conditions change and it is impossible to be predicted while the masterplan and the time schedule were made. On the other hand, those changes may lead to fundamental changes in the development policy, so the concept must be flexible to such changes without losing its qualities and principals. The master plan offers proof positive of the fact that a multifunctional urban structure combining different architectures and uses with high-quality public green and open spaces can be created on this site. Qualities and potentials of key zones endowing the new city quarter with its unique identity are visualized and defined. The traffic and transport system as outlined connects the city quarter smoothly to the high-level networks, above all of public transport. All road and transport users and all transport modes are to be provided with a clearly

structured and attractive network of communication lines intersecting the project area and its environs. Furthermore, the masterplan is going to be more detailed in the future and will be the bases for land use and development plans and it will be harmonized with other plans and projects.

5.2 CENTROPE

As it was written above, the Aspern Lakeside development is also implemented in support of the CENTROPE project. It is mentioned many times that the enlargement of the European Union pushed Vienna from the geopolitical periphery into a central position with huge economic growth potential. In this context, Aspern Airfield has become an important strategic area for Vienna. There are two key roles that the former airfield plays as a development location:

- The creation of an urban focus along the train line to Bratislava is to give to the region the opportunity of creating a partnership with high economic potential and profitable options along the Vienna-Bratislava axis.
- The development of an attractive urban center characterized by short distances between all of its functions, vibrant interaction with its environs and clear prioritization of public transport is to improve the services and facilities in the north-eastern part of Vienna and will cause an impulse to the sustainable growth in the region

5.3 Traffic Masterplan

- The main idea is the traffic system to be based on the hook-up of the city to the public transport network (underground, Östbahn regional line, buses and tram network) on direct links to the surrounding communities for pedestrian and cycling traffic and on efficient connection to the high level road network to the north. The Underground enters the former airfield from the north-western direction. The Airfield North ("Flugfeld Nord") station is an important hub between the Underground and the Austrian Federal Railways' regional train line "Östbahn" on the one hand and the required tram and bus lines on the other hand and moreover serves as a vital interchange point from private car to public transport. To prevent the Underground line from becoming a physical barrier intersecting the area, it will run on an elevated track after passing the station. The second station, Airfield South ("Flugfeld Süd"), is situated on the lakeside, adjacent to the planned science campus, and offers access to the centre of the new area. From there, Vienna's city centre can be reached by public transport in

just over 20 minutes. It is important to present the journey times from Aspern Airfield train station:

Lines	From Apern Airfield train station to	Journey times (in minutes)
U2	Praterstern Schottentor Karlsplatz Stephansplatz	18 25 30 27
S80	Vienna Main Station Vienna-Meildling Station	23 29
Ostbahn regional train line	Vienna Maun Station Bratislava Main Station	17 34
Intercity	Bratislava Main Station	28

Table 9

Moreover, the Masterplan prioritizes pedestrian and cycling traffic. It is planned to put lines of trees, greened strips und lively ground-floor zones in order to ensure a high standard of public space design. In addition to the road network, the green space structure creates a dense network of car-free, greened routes that are addressed for relaxation and leisure activities. What is more, the green corridors to the west and east will link the former airfield with its environs, the Danube Floodplains National Park and the Marchfeld plain by means of numerous

footpaths and cycling tracks. At what the road system is concerned, the A23 motorway passes north of Aspern Airfield, but its precise routing will be determined in consultation with the road construction company AFINAG. Last but not least one of the primary elements of the Aspern project was the Ring Road. It links all main access roads to the area and emphasizes the radial network of secondary streets and greened, interconnected footpaths. The ring road creates a circular corridor running between the centre dominated by the park and the project's periphery. In this way, large sections of the development zone become visible from the ring road. Its vicinity to all important functions will make it a prime distribution and supply artery in the "metabolism" of urban life in the new city quarter. Lastly, the parking space management concept outlined in the masterplan provides for shifting most private-car parking slots to underground car parks. However, the high groundwater level complicates the construction of such car parks. For this reason, it is proposed to build garages lowered by only approximately 2 m (as compared to terrain level) inside the residential blocks, with greened interior courtyards covering the car park roofs. This split-level solution allows for spacious street floor zones. A park-and-ride facility with a capacity of up to 1,500 slots will accommodate the function of the future Flugfeld Nord station as an interchange hub and contribute essentially towards minimizing motorised vehicle traffic across the Danube.

Figure 25: Road Construction

5.4 Grünbelt Green and Open Spaces

Green spaces are also a basic element and identifier of Aspern Airfield. The new city has the right balance between largely natural landscapes, urban parks, roads and squares. The intention was to create a clearcut hierarchy and distinctiveness of private, semi public, and public green and open spaces in order to provide an overarching orientation system and ensure a great variety of open space uses as planned while avoiding conflicts between different user groups. Two of the key elements of the green space concept of the city of Vienna (Green Belt Vienna) are the two big green corridors west and east of the former airfield. Given the location at the interface between Marchfeld plain and Danube banks, it is imperative to link the Danube Floodplains National Park and the land around the Lobau wetlands to the "green backbone" north of the former airfield. These large-scale, publicly accessible green zones serve a special connecting function and offer room for recreation and leisure to the local population of today

and tomorrow. For pedestrians and cyclists, the routes crossing the green corridors will blend directly into the axes intersecting the former airfield. Additional corridors are available for public transport. Moreover, the central park with its large body of water is of huge importance for the green network of Aspern Airfield. Streets, footpaths, cycling tracks and the long narrow parks are all oriented towards the vital public point. The north-western and north-eastern lakeside zones with their specifically urban character relate closely to the adjoining, more condensed structures. Ample lakeside promenades with kiosks and open-air cafés as well as pubs and restaurants invite passersby to take a leisurely stroll or beckon for a pleasurable stay. To the south, the central lake is bordered by a flat shore section with spacious lawns. Zones with denser plant growth directly by the water's edge facilitate self-purification of the water body and offer an animal habitat and retreat that is complemented by several small islands set in the lake. In some spots, the sunbathing lawns directly touch the water's edge. The lake is groundwater-fed. To create a harmonious transition from the water body to the surrounding parks and built-up areas, the terrain level around the lake will be lowered in its entirety. Despite this parks and green corridors, it is also planned to make small neighborhood parks at key nodal points. To conclude, the many squares and green corridors offer myriad possibilities or play and exercise and give the citizens leisure options in public area.

Figure 26: Open Space Area in Aspern

As it is written above, in the new built-up area, there will be a central green space that is to reflect the visual impact wetlands and a lake of an average depth of 5m that will be located in the central park. The most watercourses and the lake will draft water from the ground. The water generated on the surface, is made to percolate into the ground on-site. These leaching areas can be designed in many different ways, ranging from gravel zones and drain channels to spacious biotopes that may also run dry by certain periods. The excavated material derived from the works for creating the central park and the terrain lowering, made for the surrounding zone, will be used for backfilling the green crossing and traffic surfaces.

5.5 Building Codes: Uses, Heights and Densities

5.5.1 Land Uses :

The main aim of the urban development of the Asper city is the vibrancy and the urban variety. As a consequence, the department of the municipality that is responsible for this area designed buildings interlocking closely with public space. What is more, short distances and balanced social tissues presuppose a high degree of mixed uses embedded in a sturdy, flexible structure. At what housing is concerned, the residential buildings at first point extend to the south and west of the shopping street and they are very close to the central park and the western green corridor. The shops meeting the demands of those residential zones are located in specially designated ground floor premises. One of the main objectives of the designers is to allow for a share of residential units in as many zones of the city quarters as possible. Furthermore, the masterplan defines the purpose and the location of the schools, kindergartens and other social infrastructure, that are to be built in especially dedicated places. It is very important to mention that these locations are chosen due to their immediate vicinity of public transport stops and the green spaces. Due to their policy of mixed uses, the fundamental urbanistic structures is well organized to provide attractive spaces and premises for the remaining social needs that a city must satisfy. The areas that are designed for flexible uses, can host larger cultural and leisure installations like indoor swimming pools or event halls. Also, the areas that are located close to the green spaces, are particularly well suited for the elderly.

Figure 26: New Residences in Aspern

The uses have to do with: commerce, trade and profession are located mainly in the immediate vicinity of the Underground stations. The public space is implemented with many social and cultural functions but also with commercial and trade services like restaurants, cafes, entertainment venues. Passageways, arcades, awnings and canopies enrich the streetscape. The masterplan also points out the area for the cultural facilities of the city that fulfil a great variety of requirements like high-level Art galleries and cultural facilities of citywide importance to workshops and rehearsal studios. The biggest concentration of commercial uses is to evolve along the shopping street between the train station and the lake. The uses that require special

buildings, halls and large surfaces, such as industrial uses, will be mainly located along the eastern periphery of the former airport. Furthermore, it is important to mention that the use that was first went about the Aspern city, was to transfer the Technical University there, the project “Univercity” , but after an inner voting, this though was putted away. But, they municipality decided to create in the city science and research campuses. The qualities required for the campus include the networking with high-tech enterprises, spatial flexibility, excellent public transport connections and an attractive urban and green environment.

5.5.2 Building Heights

The master plan does not prescribe precise building heights but it lays down basic principles to define the interaction between higher and lower volumes. There is obviously a deliberate height differentiation that is to create accents, emphasize specific spatial situations and produce urbanistic rhythms and dynamic spaces. Furthermore, varied building heights are to yield private open spaces on the blocks’ rooftops.

Around the station, there are buildings with different building heights, along the shopping street, the northern lakeshore and some sections of the ring road, the buildings are up to six to nine or even in some places twelve floors. In the corners of the blocks there are often higher structures so crossing and changing direction would be given particular attention. The heights of residential buildings vary from two to seven floors. There will be more detailed plans that will provide some differences in building heights for optimizing light incidence and providing terraces and roof gardens. Last but not least, the industrial areas will not feature building heights exceeding two floors. Nevertheless, the fronts facing the ring road will be designed as multi-storey structures.

5.5.4 Densities

The new urban structure demands high building density. The objective of attracting large numbers of persons and high frequency uses to the immediate environs of the Underground stations likewise results in obvious key requirements to be met. The building densities are to be deliberately staggered to emphasize spaces and spatial sequences, structure the urban tissue and endow it with clear responsibility. Furthermore, social density and social variety are further objectives. Towards this purpose the masterplan provides for variation and contrast. On an

average, floor space density is approximately 2.2 for all the area. The dimensions and densities that are planned for the new city allow for excellent supply with goods and services.

5.6 Environment and Climate Change Policies

The principles of the masterplan are: short distances, mixed uses, construction with low land consumption. All of them are participating in Vienna's environmental protection and climate change strategies. Firstly, the main strategy is to minimize, even avoid motorized traffic. All of the traffic infrastructures are designed in a way to keep trips by car to a minimum. The efficient of public transportation is high as far as they are easy to reach and they connect the new city with the most important destinations across the city and the CENTROPE region. Furthermore, extremely important is the cut down on the energy consumption of buildings. In addition to that, there are to be built passive houses, and dense and compact built structures to avoid energy losses. It is also important to mention that they use the geothermal energy by constructing a geothermal power plan on or close to the planning area. This means that a large part of the new city's energy requirements for room and water heating will be met by geothermal power. The geothermal power project would also permit the establishment of a relevant research and enterprise focus. Last but not least, the existing, concrete runway must be dismantled by backfills and crossings. Finally the soil masses are to be managed as efficiently as possible to minimize energy input and the emission of noise and dust.

Chapter 6: Maps

In Vienna, the Municipality Departments gave us many maps of the plans they make and some of them are described below:

1. Spatial Development Scheme for Vienna

This graphic map is showing the spatial development schemes and points out the principles bearing in mind the principles of sustainability as well as the overall interconnectedness with the region. More particular it shows the important urban centers, the densities of the built up areas, the regional green spaces and the transport infrastructure. It was designed by the MD 18.

2. Spatial Development Scheme for the Region

This graphic map is showing the spatial development schemes for the Region. There are the two twin cities shown (Vienna and Bratislava) and all the urban centers that are influenced by the changes that are made. It shows also the densities of the built up areas, the means of transport that connect the two capitals and the green area that is created. It was designed by the MD 18.

3. Spatial Economic Development Scheme

This graphic map shows the main strategic economic development areas of the city of Vienna, research and development functions, city functions, logistics, ports etc. what is more the already existed industrial, commercial and economic areas are pointed out, as well as the agricultural uses. It was designed by the MD 14 and MD 41.

4. Development Scheme- Green areas in the Urban Region

This graphic map shows the securing green areas, the landscape areas of the urban region, and the open and green areas in the urban areas. For this map, the MD18 of Vienna cooperated with the Lower Austria Regional Spatial Planning Department.

5. Development Scheme- Green Areas in the Urban Region- Densely Built-up Urban Areas.

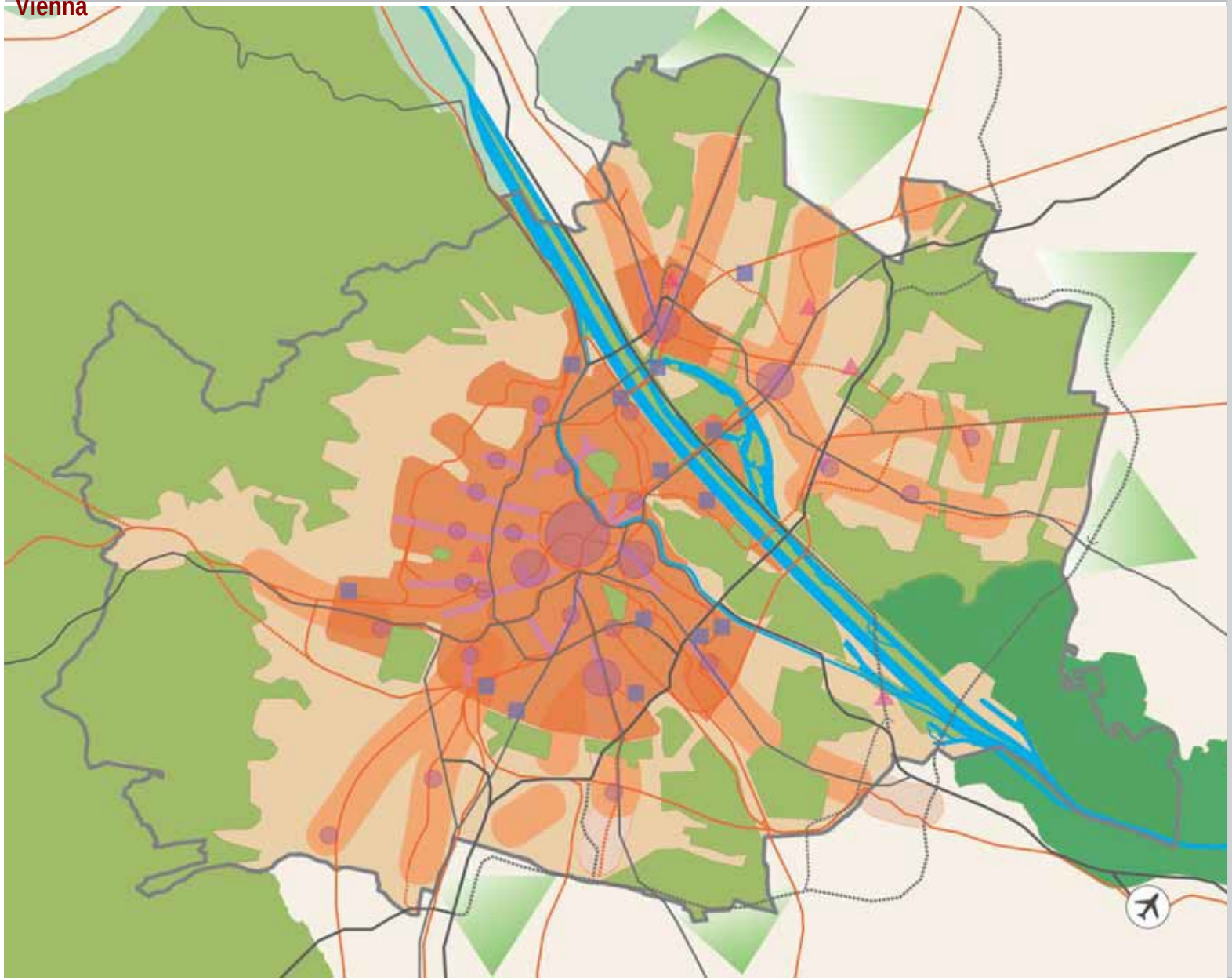
This graphic map points out the green and open spaces in the urban area according to the map 4 (Development Scheme- Green areas in the Urban Region). It was designed by the MDs 18, 14, 45, 41.

6. Settlement Development Scheme

This graphic map points out the density of the built-up areas according to the NFSI (Net floor Space Index) and also the green spaces, landscapes and the special uses of the settlement. It was designed by the MDs 18, 14, 45, 41.

1.Spatial Development Scheme for Vienna

Prepared by: MA 18, ÖIR, NÖ/RU2
Design: ÖIR, MA 18



Centers

- City
- Important urban centers
- Urban centers of local significance
- Concentration of office space
- Shopping and entertainment centers
- Important commercial streets

Density of built-up areas

- Densely built-up urban zone
- Settlement axes/settlement concentrations
- Settlement axes (optional, outside of Vienna)
- Built-up urban zones with low density

Supra-regional green areas

- National Park
- Landscape protection and larger nature protection areas (Lower Austria, Vienna) Green Belt Vienna
- Larger existing wooded areas (outside of protected zones)
- Connecting the Green Belt Vienna with surroundings (Secures agriculture and creates an interconnected landscape and recreational zone)

Transport Infrastructure

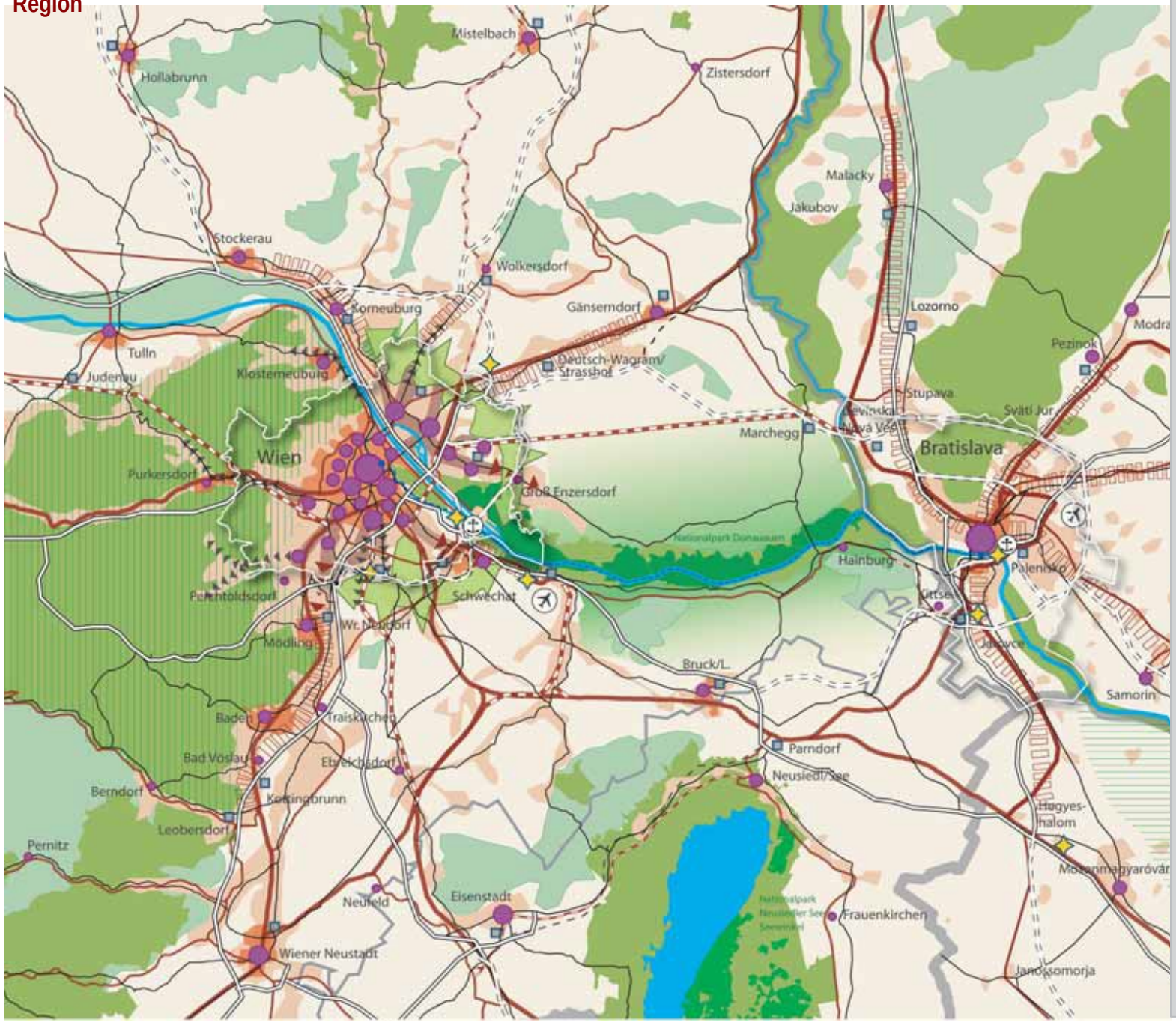
In existence/planned

- Public transport (subway, tramway)
- Individual transport

The graphical map showing the spatial development schemes comparable to STEP 84 and 94 points out the principles of Spatial development bearing in mind the thematic challenges of the principles of sustainability, the overall interconnectedness with the region and the different themes of the chapters and development schemes by theme.

2. Spatial Development Scheme for the Region

Design: MA 18, ÖIR, NÖ/RU2 • Prepared by: ÖIR, MA 18



- Cities *
- Important urban centers Vienna, supra-regional centers Lower Austria/Burgenland *
- Urban centers of local significance Vienna, regional centers Lower Austria/Burgenland *
- Sub-regional centers Lower Austria/Burgenland *

* Slovak and Hungarian centers modelled after Jordes+ documents (Dec. 2002)

- Densely built-up urban area Vienna-Bratislava, settlement core Lower Austria/Burgenland
- Larger, connected settlement areas
- Settlement axes/settlement concentrations
- Regional development axes

- Development of larger industrial-commercial zones (In existence or planned; partially inter-communal)
- Goods distribution hubs (in combination with industrial and commercial zones)
- International airports
- Ports
- Twin City Line (rapid boat line between Vienna and Bratislava)

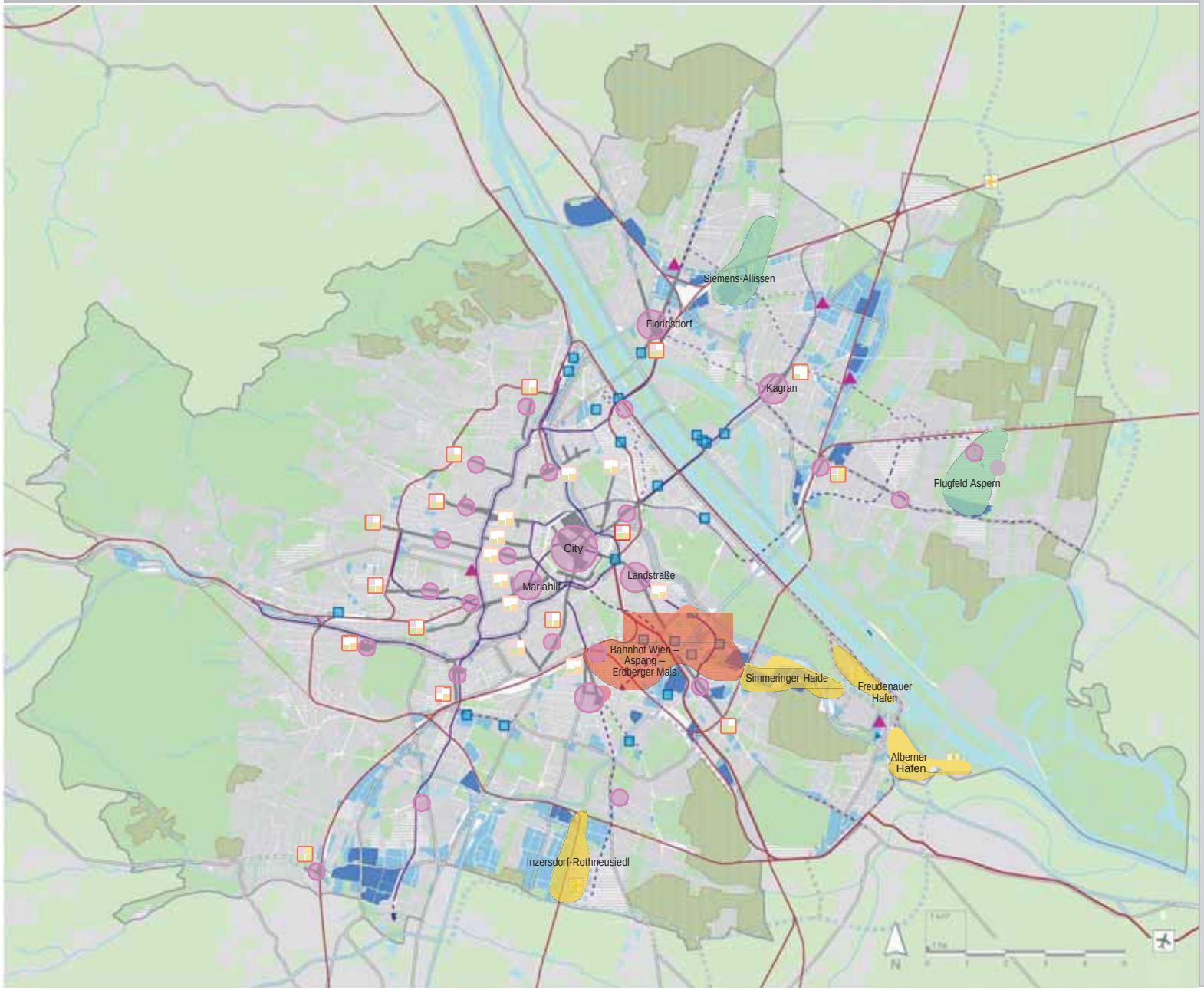
- Biosphere Park Wienerwald
- Neusiedler See/Seewinkel National Park
- National Park Szigetkös/floodplain island (planned)
- Landscape protection zones and larger nature protection zones (Lower Austria, Vienna, Slovakia), Green Belt Vienna
- Larger existing wooded areas (outside of protected zones)
- Donau Auen National Park as the "backbone of the green middle" with National Park foreland
- Connects the Green Belt of Vienna with the surroundings (secures agriculture and creates an interconnected landscape and recreational zone)

in existence / planned

- Significant supra-regional railway network
- Regionally significant railway network
- Significant supra-regional roadway network
- Regionally significant roadway network
- Extension of Viennese tramway lines and Badner railway line/ subway U6 plus regional bus corridor
- Important regional bus corridor
- National boundary
- Land boundary Lower Austria/Burgenland
- City border Vienna/Bratislava

3 Spatial Economic Development Scheme

Design: MA 18 – Wagner • Basic map: MA 14 – MA 41 • Prepared by: MA 18 – Mittringer



System of Urban Centers

- City (supra-regional significance; catchment area > 250,000 inhabitants)
- Important urban center/commercial street of regional significance (> 100,000 inh)
- Urban center of local significance/commercial street of local significance (> 10,000 inh)
- Commercial streets
  - Stabilization by:
  - Adaptation to function/upgrading by:
    - Measures that raise frequency of customers (shopping centers < 10,000 m², restaurants, entertainment, culture ...)
    - Marketing
    - Quality
    - Public transport/individual transport
- Office centers (existing/projected)
  Larger concentration of office space (office space > 30.000 m²)
- Shopping centers (existing/projected)
  Larger shopping centers and specialized markets selling goods of traditional commercial streets – outside of city centers (Sales space > 20,000 m²)

Strategic Economic Development Areas

- City functions, headquarters, research & development ...
  Train station Vienna – Aspang – Erdberger Mais
- Production/distribution/trade; research & development ...
  Airfield Aspern; Siemens-Allissen
- Logistics, production/distribution ...
  Simmeringer Haide; Inzersdorf-Rothneusiedl
- Freight distribution hub/port

Industrial, Commercial and Local Urban Economies

- Securing the existence of currently zoned commercial and industrial areas, some with a new mix of uses (larger than 1 ha)
- Current industrial areas zoned, some with a new mix of uses

Settlement zone including smallholdings*

- Urban area zoned for building including areas and green areas (smaller than 1 ha)
- Changes in use being discussed/major potential areas

Agricultural Structure Development Plan (AgSTEP)

Interest in development and protection

- Largely agricultural use, large-scale connected areas used mainly for farming

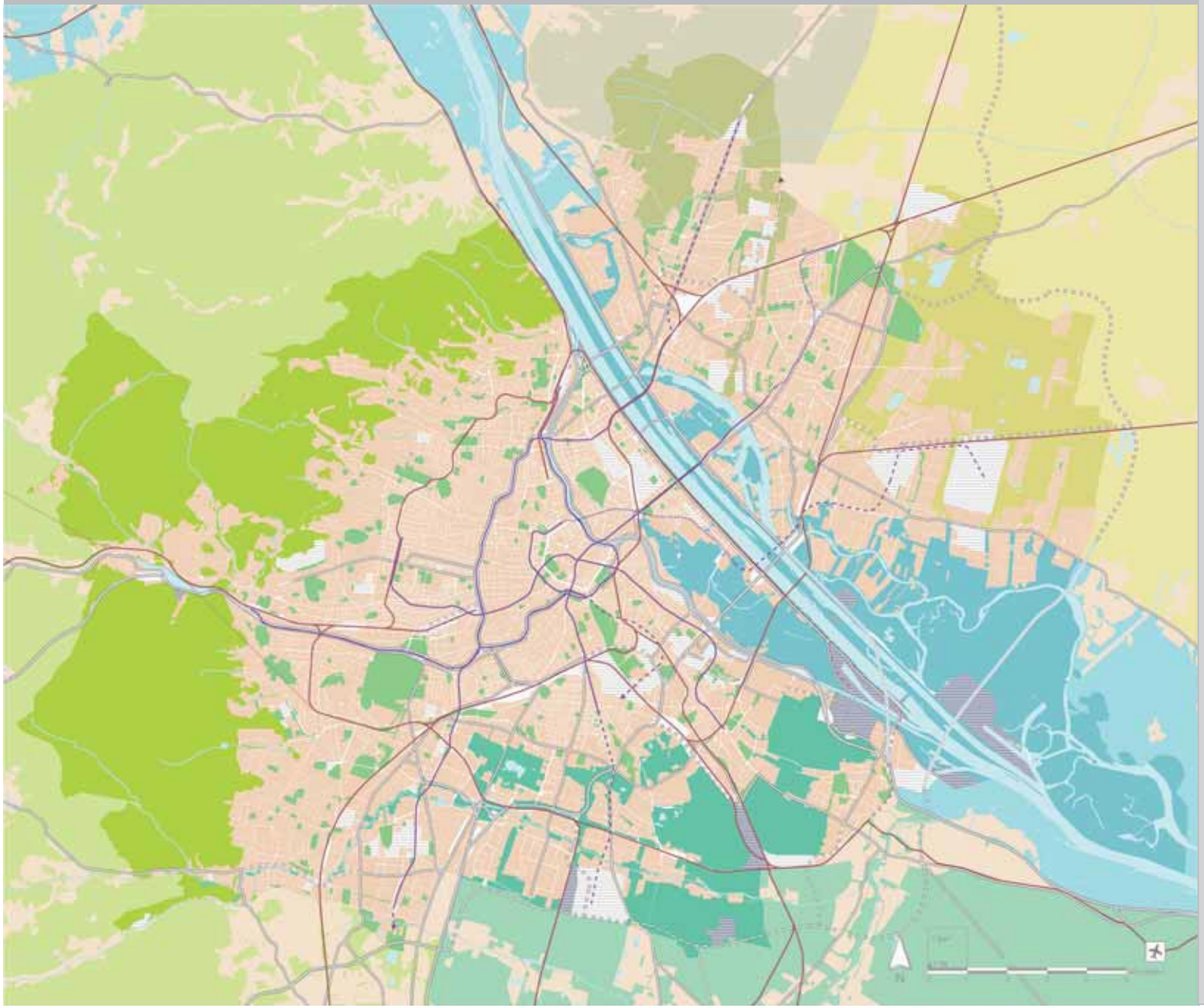
Major Transport Systems

U-Bahn S-Bahn

- For office and central functions; high-capacity public transport network (subway, urban rapid transit) — In existence / Under construction / Planned
- Important tramway lines for urban development — In existence / Planned
- For production sites and logistics centers (transport of regional and urban goods and freight); High-capacity roadways and junctions — In existence / Planned
- Principal road B — In existence / Planned

4Development Scheme – Green Areas in the Urban Region

Design: MA 18 – Wagner, Maschat, Meisl
Basic map: Lower Austria Regional Spatial Planning Program – MA 14 – MA 41 – MA 45
Prepared by: MA 18 – Glotter, Jedelsky, Gielge, Mittringer



Securing Green Areas by Limiting Settlement Development

Landscape area	Area zoned for building or for special uses
Green and open spaces in urban area zoned for building	Area zoned for building or for special uses

Landscape areas of the urban region

Vienna* Lower Austria

- Bisamberg – Southern Weinviertel
- Cultivated landscape Marchfeld
- Danube area – Donau Auen National Park
- Terraced landscape in the south of Vienna
- Vienna Woods

* According to the Green Belt Vienna 1995

Further green and open spaces in the urban area

Shows areas greater than or equal to 1 ha (Shows areas smaller than 1 ha see "Development Scheme – Green Areas in the Urban Region, Densely Built-up Area")

- Important green strips and green connecting areas that structure the city, parks (including some buildings), city gardens, historic gardens, sport facilities, cemeteries

Change in use under discussion

- Change in use under discussion/ Potential zoning areas

Settlement zone including smallholdings

- Urban area zone for building including green areas smaller than 1 ha
- Special uses
  These areas are reserved for special uses and are not suitable for settlement

Waters

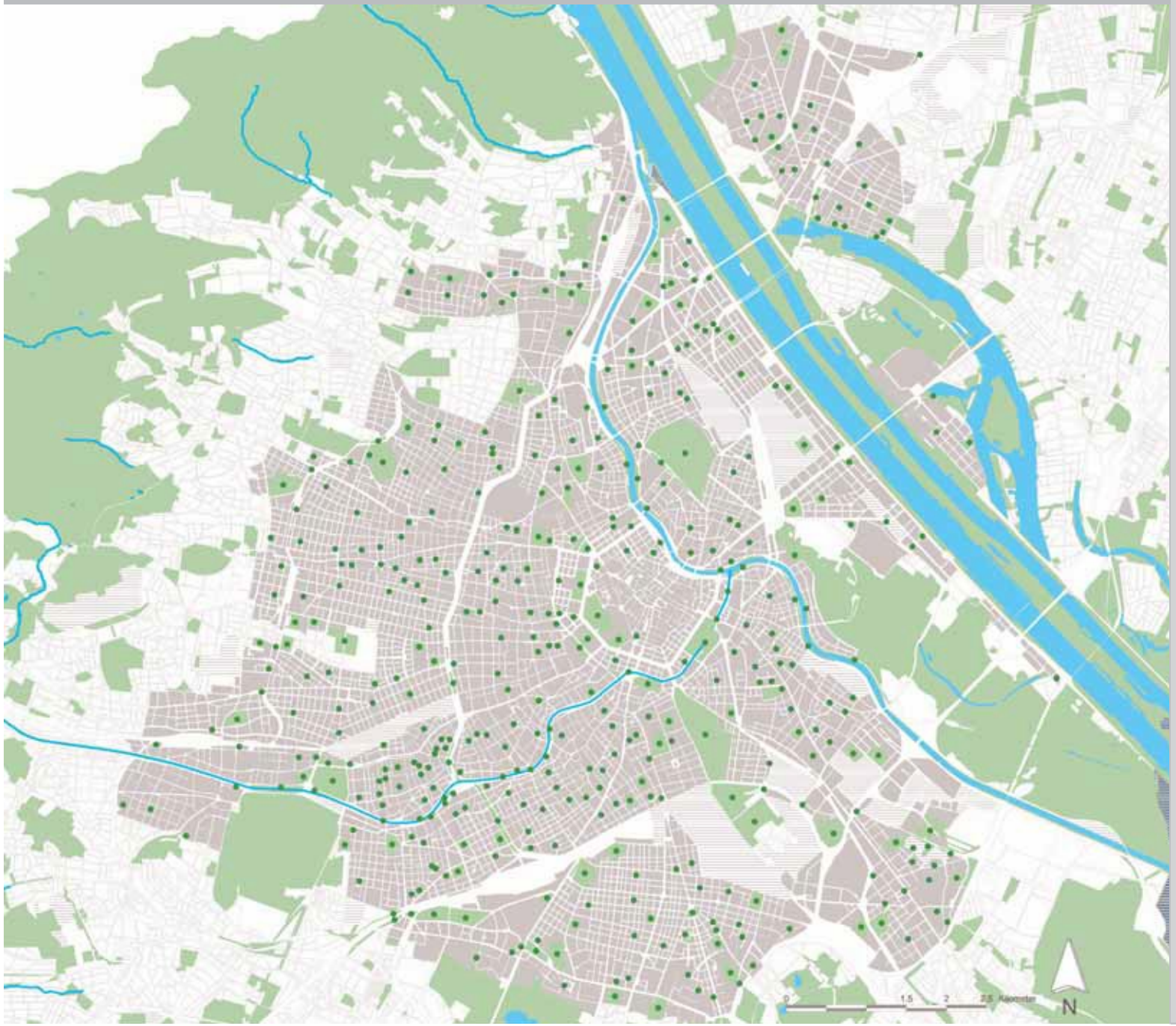
- Waters in the urban zone and moving waters that shape the landscape (Rivers, streams and brooks); standing waters

Transport Infrastructure

Rail	In existence Under construction/planned	
Subway	In existence Under construction/planned	
Federal roadways A and S	In existence Planned	
Main roads B	In existence Planned	
Other transport areas		

5.Development Scheme – Green Areas in the Urban Region – Densely Built-up Urban Area

Design: MA 18 – Wagner
Basic map: MA 14 – MA 41 – MA 45
Prepared by: MA 18 – Glotter, Jedelsky



Green and open spaces in the urban area according to the Development Scheme – Green Areas in the Urban Region

Landscape areas and other green and open spaces in the built-up urban zone
(Important green strips and green connecting areas that structure the city, parks (including some buildings), city gardens, historic gardens, sport facilities, cemeteries – areas greater than or equal to 1 ha)

Green and open spaces in the densely built-up urban area

Zoned and/or existing green and open spaces

Change in use under discussion

Change in use under discussion/
Potential zoning areas

Settlement zone including smallholdings

Densely built-up urban zone

Urban area zoned for building

Special uses
These areas are reserved for special uses and are not suitable for settlement.

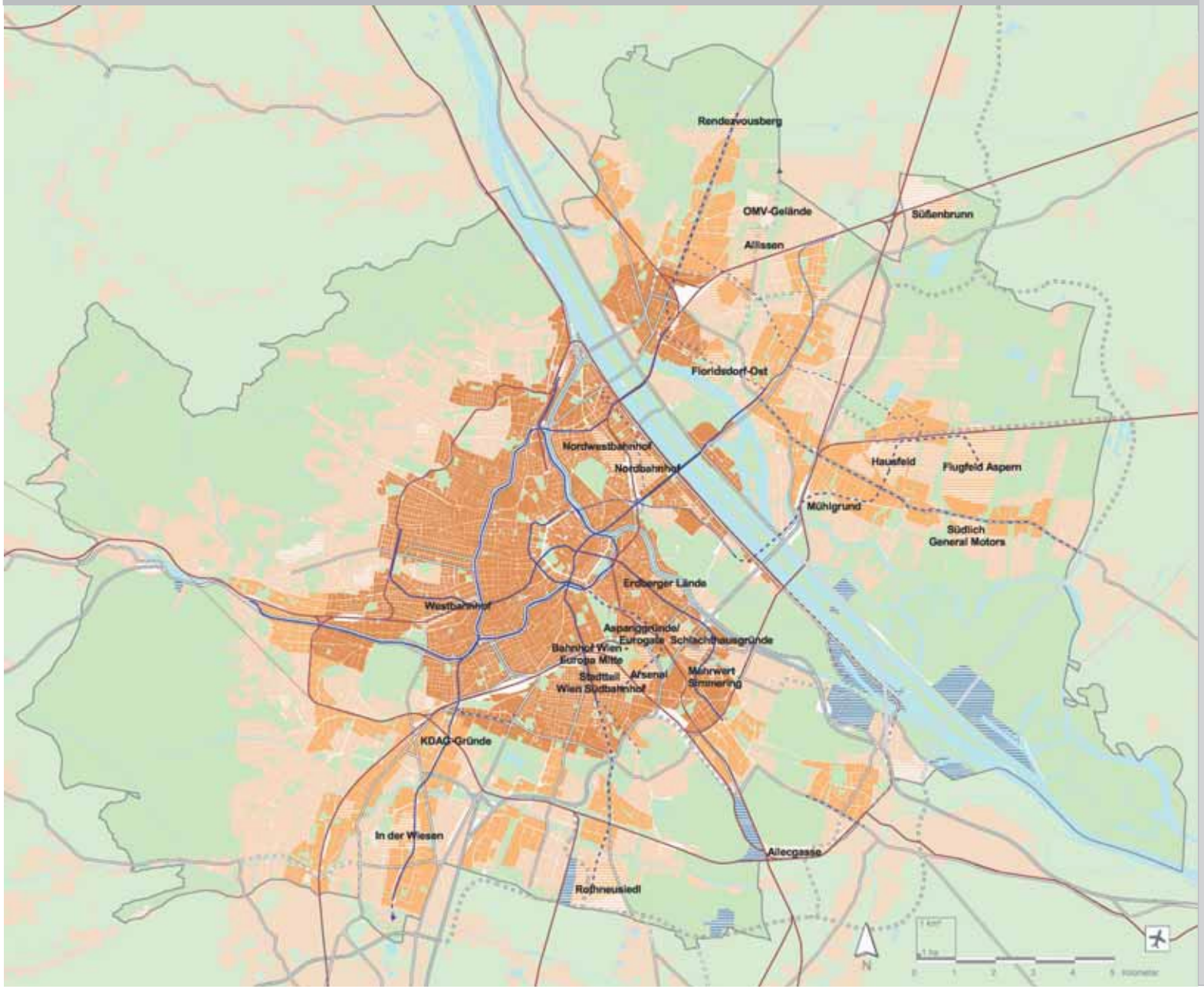
Transport areas

Waters

Waters in the urban zone and moving waters that shape the landscape (rivers, streams and brooks); standing waters

6. Settlement Development Scheme

666.Design: MA 18 – Fellner • Basic map: MA 14 – MA 41 – MA 45
Prepared by: MA 18 – Glotter, Jedelsky, Gielge, Mittringer



Density of built-up areas

Densely built-up urban zone
Preservation and further development of multiple uses and vertical mix of functions
NFSI* at least 2.0; In settlement concentrations up to NFSI 3.0

Settlement axes/settlement concentrations
Mixed use in catchment area of public transport
NFSI at least 1.0; in central areas close to public transport up to around NFSI 2.0

Other urban area zoned for building
Mostly dispersed land use with certain densely built-up cores,
Single-family homes, smallholdings **
More densely built-up areas only in connection with built-up cores, otherwise no further increase in density

Change in use under discussion/ Major potential areas
in densely-built up urban zones
in settlement axes/settlement concentrations
in urban areas zoned for building

Landscape areas and other green and open spaces in built-up zones of the city, including some buildings
Shows areas greater than or equal to 1 ha

Special uses
These areas are reserved for special uses and are not suitable for settlement.

Waters
Rivers, streams and brooks; standing waters

Transport infrastructure

Rail	In existence	Under construction/planned
Subway	In existence	Under construction/planned
Important tramway lines for urban development	In existence	Under construction/planned
Federal roadways A and S	In existence	Planned
Principal roads B	In existence	Planned
Other transport areas		

* Net floor space index (NFSI) indicates how large the attainable floor space is in relation to the total area zoned for building use (net building land).

** The concept of Kleingartensiedlungen and Kleingartenanlagen (smallholdings) in Vienna is used to refer to small plots of land leased for long terms (99 years) used for summer cottages or year-round living.

Επίλογος

Η βασική ερώτηση που πρέπει να απαντηθεί σε αυτή τη Διπλωματική είναι αν μπορεί μια μητρόπολη όπως είναι η Βιέννη να ανταποκριθεί στην πρόκληση της Αειφόρου ανάπτυξης. Μία αειφόρος πόλη πρέπει να είναι βιώσιμη, ελκυστική, ασφαλής και υγιής και ο τρόπος ζωής των κατοίκων της να ανταποκρίνονται σε αυτή. Μία πόλη σχεδιασμένη ώστε οι κάτοικοί της να επικοινωνούν μεταξύ τους και να μην αποξενώνονται από την φύση και τους υπόλοιπους κατοίκους και ταυτόχρονα να καλύπτονται όλες οι ανάγκες τους. Είναι αυτό όμως εφικτό με τα δεδομένα της νέας χιλιετίας; Η Βιέννη έχει αναγνωριστεί ως η πιο βιώσιμη πόλη στον κόσμο για 2^{η} χρονιά αλλά και ως η πιο «έξυπνη πόλη». Λειτουργούν όμως όλα τέλεια;

Η απάντηση δεν είναι εύκολο να δοθεί. Ο δήμος της Βιέννης, κυρίως μετά το 2003 έκανε εντυπωσιακά βήματα προς την κατεύθυνση της αειφορίας θεσπίζοντας νέες πρακτικές σχεδίασης, κάνοντας πολλές αλλαγές στις ήδη δομημένες περιοχές και οι κάτοικοι φαίνονται να είναι ευχαριστημένοι από το νέο αστικό περιβάλλον που έχει δημιουργηθεί. Παρόλα αυτά, υπάρχουν ακόμα προβλήματα που δεν έχουν ξεπεραστεί.

Η νέα τάξη πραγμάτων και ο νέος τρόπος ζωής και κατανάλωσης και παραγωγής καθιστούν τη βιώσιμη κινητικότητα και ένταξη των νέων τεχνολογιών στη διαδικασία του σχεδιασμού επιτακτικές ανάγκες, επομένως και κατά τη διάρκεια του αστικού σχεδιασμού. Η πόλη της Βιέννης έχει εκπονήσει πολλά σχέδια με σκοπό την κάλυψη των νέων αναγκών.

Αρχικά το σχέδιο για τις συγκοινωνίες το 2003 ήταν πρωτοποριακό. Νέοι τρόποι μεταφοράς εισήχθησαν στο ήδη υπάρχον σύστημα ώστε να αποφεύγεται η χρήση των ΙΧ, πράγμα ιδιαίτερα σημαντικό σε μία πρωτεύουσα με τόσους κατοίκους. Στο σχέδιο τονίστηκε η σημασία της χρήσης των Μέσων Μαζικής Μεταφοράς με την δημιουργία νέων σταθμών του μετρό και ανάπτυξη των δικτύων των λεωφορείων και των τραμ, που πολλά από αυτά λειτουργούν όλο το 24ωρο. Ακόμα σχεδιάστηκαν ποδηλατόδρομοι και θεσπίστηκαν νέοι κανόνες για τον σχεδιασμό των πεζοδρομίων ώστε οι πεζοί να νιώθουν πιο ασφαλείς καθώς περπατούν στην πόλη. Τέλος ύστερα από την μετατόπιση της Βιέννης στο κέντρο της Ευρώπης, σημαντική ήταν η συνεργασία της με γειτονικές Ευρωπαικές πρωτεύουσες, ιδιαίτερα με την Μπρατισλάβα από την οποία απέχει 60 χμ. Αυτό γίνεται κυρίως με την δημιουργία ενός από τα

πιο υποσχόμενα προγράμματα της ΕΕ, του CENTROPE. Σύμφωνα με αυτό, υπάρχει συνεργασία με γνώμονα την βιώσιμη ανάπτυξη μεταξύ περιοχών της βορειοανατολικής Αυστρίας, της Σλοβακίας, της Ουγγαρίας και της Τσεχίας. Βασικοί στόχοι που τέθηκαν ήταν η ανάπτυξη της οικονομίας, η βελτίωση των υποδομών αλλά και ο πολιτισμός και η εκπαίδευση. Σκοπό έιναι να γίνει η ευρύτερη περιοχή μία από τις πιο ανεπτυγμένες και δυναμικές περιοχές για να ζήσει και να εργαστεί κανείς. Στα πλαίσια αυτού του ρπογράμματος αποφασίστηκε και η ανάπτυξη της περιοχής της Ασπερν. Στη συέχεια, το 2005 η πόλη εξέδωσε το τελευταίο σχέδιο αστικής ανάτυξης. Παρότι δεν είναι νομικά δεσμευτικό για τους σχεδιαστές, δίνει πολύ σημαντικές καθοδηγητικές γραμμές για της στρατηγικές που πρέπει να ακολουθηθούν. Το 2015 θα εκδοθεί το νέο σχέδιο αστικής ανάπτυξης και κάθε 10 χρόνια θα εκδίδεται ένα καινούριο με τις νέες προκλήσεις, στρατηγικές και σχέδια για την πόλη. Στο βιβλίο αυτό, η Ασπερν παρουσιάζεται ως περιοχή-κλειδί για την ανάπτυξη της πόλης αλλά και της ευρύτερης περιφέρειας. Η Άσπερν είναι η περιοχή που φιλοξενούσε το αεροδρόμιο της πόλης μέχρι το 1977. Αφού το αεροδρόμιο μεταφέρθηκε στην περιοχή Schwechat, στην περιοχή εγκαταστάθηκαν επιχειρήσεις όπως η ΟΠΕΛ. Μετά την ένταξη των νέων χωρών στην ένωση, και την απόφαση για χάραξη κοινής στρατηγικής μεταξύ των χωρών της κεντρικής Ευρώπης (Αυστρία, Τσεχία, Σλοβακία, Ουγγαρία) το συμβούλιο της πόλης αποφάσισε την αστική ανάπτυξη και αναβάθμιση της περιοχής. Τέλος, σημαντική είναι και η προσπάθεια για την προστασία του πρασίνου από τον Δήμο. Εκπονήθηκαν πολλά σχέδια για αυτόν το λόγο όπως η «Πράσινη ζώνη». Σε αυτόν τον τομέα, καθοριστική είναι και η συμμετοχή των πολιτών σε διάφορες δράσεις.

Παρά τα σχέδια που έχουν γίνει., υπάρχουν πολλοί σχεδιαστές που είναι ακόμα πολλοί επιφυλακτικοί κυρίως λόγω της διοικητικής πολυπλοκότητας της Αυστρίας. Καταρχήν υπάρχουν 9 διαφορετικοί νόμοι για τον πολεοδομικό σχεδιασμό, ένας για το κάθε ομοσπονδιακό κρατίδιο, ενώ η έλλειψη ενός Υπουργείου χωροταξίας γίνεται φανερή σε πολλές περιπτώσεις. Ακόμα πιστεύεται ότι το πολεοδομικό σύστημα της Βιέννης είναι ξεπερασμένο και όχι ιδιαίτερα ευέλικτο στις νέες αλλαγές και συνθήκες. Ακόμα ιδιαίτερο πρόβλημα συναντάται στα όρια των κρατιδίων και καθώς δεν υπάρχει αίσθημα συνεργασίας μεταξύ τους, το πρόβλημα εντείνεται σε ορισμένες περιπτώσεις. Παρόλα αυτά βήματα έχουν γίνει και προς αυτή την κατεύθυνση με την ίδρυση οργανισμών συνεργασίας. Μία ακόμα ερώτηση η οποία θέσαμε ήταν για την οικονομική κρίση και πως αυτή έχει επηρεάσει την Βιέννη και η απάντηση από όλους τους ερωτηθέντες ήταν ότι αυτό το πρόβλημα δεν υπάρχει ακόμα στο μυαλό των Αυστριακών που οδηγεί στην διερώτηση αν το σύστημά τους, σχεδιαστικό και Real Estate

Management, είναι έτοιμο να αντιμετωπίσει ένα τέτοιο πρόβλημα που πλέον είναι πιο εμφανές από ποτέ. Φυσικά το γεγονός ΄το τα σχέδια που εκπονούν έχουν μικρό σχετικά βάθος χρόνου βοηθά στο να ξεπεράσουν μη προβλέψιμες οικονομικές, πολιτικές και κοινωνικές αλλαγές. Σχέδια που θα εκπονούνταν πιο συχνά θα είχαν αρνητική επίπτωση στην ζωή των κατοίκων αφού δεν θα είχαν τον χρόνο να ανταπεξέλθουν στις συνεχόμενες αλλαγές. Ένα ακόμα πρόβλημα που παρατηρήθηκε είναι η σύνταξη των σχεδίων για την αστική ανάπτυξη και την συγκοινωνία ξεχωριστά το ένα από το άλλο και με διαφορά 2 χρόνων μεταξύ τους. Όμως, το 2015 το πλάνο του Δήμου έιναι να ενώσει αυτά τα δύο σχέδια και να οδηγηθεί σε μία ολιστική στρατηγική για την ανάπτυξη της περιοχής. Ακόμη, μπορεί να θεωρηθεί πρόβλημα η εμμονή κάποιων σχεδιαστών με την κατασκευή passive house που παρά τα πλεονεκτήματα που παρουσιάζουν είναι υπεύθυνα σε πολλές περιπτώσεις για την αποξένωση των κατοίκων της πόλης από την φύση. Η τοποθέτηση φωτοβολταικών στις οροφές αλλά και η χρήση πολλών εναλλακτικών μορφών ενέργειας και η αναπαλαίωση των παλιών κτηρίων ώστε να γίνουν ενεργειακά αποδοτικά (Energy efficient)για τις ανάγκες των σπιτιών φαντάζουν πιο ικανοποιητικές λύσεις. Τέλος σημαντικό είναι να υπογραμμιστεί η έντονη προσπάθεια για την προστασία του περιβάλλοντος αφού έχουν θεσπιστεί ομοσπονδιακοί, ιδιαίτερα αυστηροί νόμοι και πολλές περιπτώσεις απαιτούν την διεργασία Εκτίμησης Περιβαλλοντικών Επιπτώσεων.

Καταλήγουμε λοιπόν στο συμπέρασμα ότι η Βιέννη είναι μία βιώσιμη και υγιής πόλη και οι προσπάθειες που έχουν γίνει με οδηγό την αειφόρο ανάπτυξη έχουν αναγνωρισθεί και για αυτό τις έχουν απονεμηθεί βραβεία από παγκόσμιους οργανισμούς. Παρόλα αυτά πρέπει πλέον να αντιμετωπίσει και την νέα πρόκληση της οικονομικής κρίσης. Τέλος πρέπει να εξετασθεί αν το παράδειγμα της Βιέννης μπορεί αν λειτουργήσει ως οδηγός για άλλες Ευρωπαικές πρωτεύουσες, λιγότερο αναπτυγμένες, υγιείς και βιώσιμες όπως η Αθήνα.

Summing up

The question that has to be answered is how the sustainability is defined in a metropolitan city and if this challenge works in this new era the world comes through. First of all, a sustainable city must be a lively, attractive safe and healthy city with a corresponding lifestyle. That means that the new city that the planners have imagined is the city where the people can communicate with each other, they don't have stress and it is not noisy. What is more, a good public realm is a crucial factor for good public transportation to make the citizens walk in style and safely all day and night long. The city should "invite" the citizens to walk and bicycle as much as possible in the course of their day doings. But is this a workable plan or a Utopia the planners came up with? Vienna was awarded this year for the second time in a row with the title of the most sustainable city in the World and the smartest city. But is everything working perfect there?

The answer is not easy to give. Since 2003, the municipality of Vienna made many huge steps in support of sustainability and that is why it is in the top sustainable and livable cities in the world. Many plans have been implemented, many changes took place and the people seem to be happy with the new urban environment. But there are still too many problems and obstacles the city of has to face.

As it was mentioned many times before in this thesis, sustainability is "The development that meets the needs of the present without compromising the ability of future generations to meet their own needs", Brundtland Report. The three pillars of this development are the environmental and social development and the economic growth. Furthermore, the new challenges that of new century are the new types of lifestyle and consumption that the modern people have espoused, the specialization of economic processes nad production and the need of smart mobility and technical innovation. All of these challenges have an obvious impact on local level so the city of Vienna have elaborated many new plans on a urban, regional and local level in the name of sustainability that meet these challenges.

In 2003, the Traffic Masterplan was a breakthrough for the city of Vienna. The need of new mobility methods except the use of individual cars was more than essential in a metropolitan, capital city with so many citizens. The new plan stated the importance of the public means of transportation as well as walking and bicycling. Until today, there are 5 underground lines, and

many buses trams and trains that run Vienna all day and all night long. In many parts of the city there are bicycle roads designed in support of the safety of the users. The safety of the pedestrians is also very important for the designers' team of the city of Vienna. Particular methods of the sidewalk designed were implemented for in a way that the citizens feel comfortable and safe to walk. Also, there are lights in the most of the cities streets so the pedestrians don't feel afraid to walk in the night. The connection between the city center and the airport is easier than ever as long as there are more than one ways for the traveler to reach the center quickly and safely. Last but not least, after the incorporation of new member-countries in the EU, Vienna became the heart of Europe and there was designed more ways to travel from the other European capitals to Vienna. The most important connection is this between Vienna and Bratislava, the so-called twin cities., that the distance between them is about 60 km. Also, in support of this new role of the city of Vienna, Austria, Czech Republic, Slovakia and Hungary committed one of the most promissory projects in Europe, The CENTROPE project.

Also in 2003,after the Kittsee Declaration among Austria, Czech Republic, Slovakia and Hungary, the CENTROPE project started running as one of the most important projects in Central Europe and in European Union in general. CENTROPE is a joint initiative of the Austrian Federal Provinces of Vienna, Lower Austria and Burgenland, the Czech Region of South Moravia, the Slovak Regions of Bratislava and Trnava, the Hungarian Counties of Győr-Moson-Sopron and Vas as well as the Cities of Bratislava, Brno, Eisenstadt, Győr, Sopron, St. Pölten, Szombathely and Trnava. The main goal of this establishment and development of the new region is to become one of the strongest economies in Europe. Moreover, other goals of this regional cooperation are economy, infrastructure, education and culture. The point is the touristic success of the region and lobbying together. Until today, about 6.5 million people live in the region and CENTROPE define itself as a hub at the heart of the Europe and it presents excellent prerequisites to become one of the most dynamic spaces to live and work in. It is also considered as the meeting point of different language areas and attracting enterprises, people and ideas from all over the world. As a part of the CENTROPE project, the Aspern Lakeside project was planned.

In 2005, the municipality of Vienna published the STEP05, the most recent Masterplan of Vienna. The book is not legally binding but it defines the so-called target areas of the city

development. What is more, there are many maps, strategies and new plans inside it that invest some guide line to the planners. Even though it is not legally binding, the zoning and local planning must be based on this. The zoning plans, that are legally binding, define the height and the width of the buildings and also the capacity of the flats that can be built in a house, the lines and the distance of the street and also define the categories like if the area is industrial or traffic or commercial, residential green etc. The next Masterplan is going to be published in 2015, that means every 10 years, and there will be new target-areas shown depending on which areas the city government considers that there should be development and improvement in the next years. One of these target areas is the Aspern Lakeside.

The former airport field, called Aspern closed in 1977. Since then, many plans were made for the development of the area. The UNIVERCITY 2015 was one of them, and one of the components was to transfer the technical university in the Aspern city so it would be intent in a campus and not interspersed in the city of Vienna, but after voting inside the university the decision was negative, so the TUW still in the city. What is more, in 1982 an engine and drive train plant for OPEL was constructed on part of the former airfield, In 2004 Opel donated part of its property as a base for Austria's largest automobile club. The city council decided that in this former airfield should be intensive development. The special about this project, except the development of a former airfield that was out of use for many years, is that it is a part of the regional development of CENTROPE since the city of Aspern is in the middle of the two twin capital cities Vienna and Bratislava. What is more, Vienna back to the 1980s was a little bit isolated part of the Western Europe, so after the enlargement of the EU it started playing a new role. So, according to this, there is a regional development that connects the Austria with Slovakia, Hungary Czech Republic, but on the same time, there is a local development. Many enterprises and housing have already moved in the area and what is more, since 2010 the new station "Aspernstrasse" of line U2 of the underground opened. Until 2015 there will be 6 more stations that will service this new urban area. Furthermorem in support of sustainable development, the new urban structure will have high building density that is approximately 2.2 and the building heights will vary. Last but not least, many passive and green houses are planned to be built in the new urbanistic area.

Except of these plans that are extensively discussed in this thesis, the city of Vienna implemented many more especially in support of the Sustainability. The Waste management of

the city of Vienna is one of them, and Vienna was awarded with the prize of "World City closest to sustainable Management" because of the new regulations in this field. Moreover, plans for passive houses, solar panels and village renovation are already made. Last but not least, very important field for the development of Vienna is the green protection. There are many plans about the protection of the Nature in Vienna. One of the most common is the Grün Belt that surrounds the city, and the existence of many parks interspersed in the city. Another example of good practice is the annual deforestation where many citizens take part. Furthermore, the forests are highly protected according to the federal law.

Till now, it seems that everything works perfectly in the metropolitan city of Vienna. But many planners, such as Mr. Wolfang Wasserburger who works for CEIT Alanova Institute as a researcher, have a different opinion. He claims that one of the biggest obstacles that the spatial planning of Austria faces is the fact that there are 9 different spatial, one for every federal state, running Austria. Some federal states have some regional planning system of different scales but some of them don't have spatial planning in special topics and there is no federal competence for planning. He also believes that Vienna is a little bit beside the system as long as it is a community and a federal state in the same time. What is more, in his point of view, there are no present concepts. According to him the spatial planning in Austria is very old fashioned and all of the new ideas that exist are not implemented in a modern way, but with the tools they used to use in the 1960's.

Another problem that was mentioned by the most of the planners we interviewed is the coordination of the border planning because of the difficulties that exist because of the 9 different laws. Even though there are many practices to fix the problem, bureaucracy that exists if there is a good idea is so confusing that many times it is put away. There are many communities between the states to fix this kind of problems though.

In the question about the harmonization among Europe, the answers varied. Some believe that there is no much harmonization among Europe and while others claim the exact opposite. The truth is that there is a European project that tries to harmonize the spatial data but as it was mentioned before, if there is not an acceptable definition of spatial planning, there will not be an harmonization among different countries with different definitions for this term. In addition to that, according to Mr. Wasserburger, the fact that the Architects and the planners are divided

in the Technical University of Vienna does not help the situation as the backgrounds of them are different and cannot cooperate easily.

Furthermore, the planning policy in Vienna and in Austria in general is not very flexible especially due to the confusing law system. However there are many modern ideas that may help to solve this problem, but the Austrian administration is very conservative and old fashioned, in some cases the administration was reformed 250 years ago and stills the same!

Another question that was very important to ask, was about the economic crisis and the policies that have been followed due to it. It was very impressive that most of the interviewed, including spatial planners, professors and real estate agents, answered that the crisis was not yet in the minds of Austrian. That means that their system is not ready for a crisis like that thing that will have an impact on the spatial planning and real estate market. Moreover, as it is mentioned above, the Austrian system is not flexible due to the law system that means a prospective economic crisis may be damaging for it, especially when the most important project that runs in Vienna is CENTROPE that is based on economic development. But, on the other hand, it is important to notice that all of the projects that are designed are supposed to work for the next ten years, that means that there will be time for the planners to deal with the new circumstances. What is more, they don't change their plans extremely often , so the citizens have time to cope with the new circumstances. At what the Aspern project concerns, the concept is supposed to be flexible to economic and social changes.

Another problem that is stated is that all of these plans were made separately. The traffic Materplan was published in 2003, two years earlier than the city development plan that was planned in 2005. Those plans interact to one another so there should be a main guidance and a general masterplan. However, the next STEP15 that will be published in 2015 and the municipality is working on it, will include both of these masterplans so the implementations will work easier and smoother in support of sustainability. For example, there are many manners addressed to the goal of reducing CO2 emission. The one that is stated in traffic masterplan regards the use of Public transportation and alternative types of transportation such as bicycling and walking. It is true that after the implementations regarding the traffic masterplan, the 2/3 of the traffic is contacted by the public transport, walking and cycling and only the 1/3 of the population uses the car. But if there are not the appropriate changes in the land use and zoning plans, the results will not be as impressive as they could.

Moreover, it is important to say that in Vienna there is a huge increase of Passive houses. On the one hand, they are really effective to the environment and they help to CO_2 emissions reduction. On the other hand, they are very expansive and they isolate the citizen from the city and the nature, boosting one of the most serious problems of the new century, alienation. But there are also many projects about using environment friendly means of heating for avoiding building passive houses such as putting solar panels on the roof of the buildings that works also for the electricity. Furthermore, there is one more project running that concerns the innovation of the houses, especially from 50's and 60's, for isolation so one can reduce the cost of heat.

Last but not least, all of them agree that the environment is protected through very strong federal law for Environmental Impact Assessments.

We can come to the conclusion that Vienna is a livable, healthy city. Most of the development practices that take place are in support of sustainability and that is why it referred as a one of the most sustainable and smart cities in the World. However, now it has to face new challenges such as economic crisis and crisis in the Real Estate Market that are very crucial this time. Finally, the case of Vienna should be a driver for less developed, healthy and sustainable cities of Europe such as the Greek capital, Athens.

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Interview with Julius Ernst: Senior advisor for land administration and cadastral information systems as well as responsible for issues relating to cadastral offices. In addition, chair of Cadastre and Grundbuch Knowledge Network of euro Geographic's and representative of BEV in the committee on cadastre of the European Union and in the "Eulis" –Program.

- Vienna University of Technology (TU Vienna)

Interview with Robert Kalasek: Department of spatial development, infrastructure and environmental planning, centre of regional science.

Interview with Cristoph Twaroch: Dipl. Engineer and lecturer at the department of jurisprudence.

- Institute of Urbanism, Transport, Environment and Information Society

Interview with Wolfgang Wasserburger: Dipl. engineer and senior consultant in regional and transport planning, online GIS and technical tools.

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Interview with Alexander Vöelkl: Dipl. Engineer and deputy director of Raiffeisen bank's branch.

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Mathis Falter: Sector Urban Research and Space analysis.

Municipal Department 21A

Municipal Department 21B

Philipp Fleischmann: Land use and district planning.

Municipal Department 37:

Peter Leithner: Director of the department Constructions and City planning technique.

Municipal Department 41:

Erich Flicker: Dipl. Ing and representative of the departments head

Appendix

Interviews

- Interview with Wolfgang Wasserburger: Dipl. engineer and senior consultant in regional and transport planning, online GIS and technical tools. (Institute of Urbanism, Transport, Environment and Information Society)

1. Description of the Spatial Planning System in Austria

We did some description within an EU project in E-contact plus program. We can send it to you by mail and it's open to the public. The main problem is that the law is separated to the Federal States, each of the 9 federal states has its own law and in some parts quite different. Firstly I have to point that I am not active in Spatial planning at the moment, I do research and maybe some of my knowledge is a little bit updated at the moment.

2. How is the Austrian government responding to sustainable development through spatial planning?

Q: How the government is responding to sustainable development through Spatial Planning? In Greece, because of the economic crisis, they stopped every Planning. And what about the Green buildings?

A: *There are a lot of differences from the whole political system. Until the point like fabricates. In Austria, every little village have fabricates. And at least in low Austria, I know it better because I made some Spatial plans there 30 years before, the fabricates for example they are public. So they have really their own law how they work, but this is beside spatial planning system.*

Q: Which is the conventional approach?

A*: You can read it in the paper I will provide you. We have zoning plans. They are done by the local communities. Vienna is always a little bit beside the system because it's community and federal state in the same time, so we maybe have to look Vienna specially. We have the zoning plan, the scale 1/1000.*

Every community should have one zoning plan. I am not sure if there is someone left. In the 70's and 80's, some communities tried to dismiss those zoning plans, so they can be free in their decisions. By now, I don't know. There are some contacts you can go and ask. Below that, we have the building plan. This is partially the same in Germany. The difference is who has to use it. In Austria, everyone has to use it, in Germany only the administration.(at the scale 1/1000). The communities should but it's not necessary to have it for everywhere. So this is the difference. And these are the local levels. The federal state level is really different between the federal states. Some of them have some Regional planning system of different scales, some don't have some spatial planning on special topics, but it's also not the same in all federal states, and there is no

federal competence for planning. So this is a very special point in Austria. There is only a combination administration which has two directors, one after the federal state and other of the states. So and because we don't have this form of a federal planning, there are some problems across the border planning between the federal states. In East of Austria for example, we have a community of 3 federal states and this is called "planning community east" (we can provide you a contact there). They try to coordinate the border planning but every time they have a good idea they have to ask the 3 chiefs in the federal states, so it is very hard to work there. (I can provide you a contact with a spatial planner or the 2 directors there).

Q: What about the present concepts?

A: In my point of view , there are no present concepts. They all work with the concepts from the 60's. To be honest, spatial planning started in 1958 or 1956 with the highest court in Austria. The constitution planning is not specified. (in www.corp.at you can find online information for Spatial planning for Eastern German and Austria (Spatial Planning Conference). It's about 400 participants.) As I said before, in my point of view there are no present concepts, only very old staff.

Q: What about Green buildings? Did you try to change some city plans?

A: Yes, there are some thoughts at least in Vienna, but since 1976 spatial planning and Architects are divided at the TUW, so you can meet totally different people that they Architects or Spatial Planners. Sometimes they don't speak one to the other and this could be a problem.

Q: And what do you think is the new Role of Spatial Planning?

A: I think there is no really a new role. Spatial planning is very old fashioned in Austria. Hopefully you will find someone who gives you different opinion.

Q: Which is the effectiveness and the performance of Spatial planning?

A*: Maybe you can find some in the conference papers. In some parts, spatial planning is very effective. The village ends here and the fields start here. There are borders between building areas and green fields.*

Q: What about the environmental impact?

A: Beside all the spatial planning there is also very strong Federal law for Environmental Impact Assessments (so I will provide you the German Terms for your thesis you will need.) this federal law is very effective.

Q: Is there Harmonization among Europe?

A: I don't think that there is much harmonization among Europe. We are working now in a new project – e-contact plus program. We try to harmonize the spatial data. Within this project, 24 partners, 15 European countries. It's not even possible to harmonize between the planners and the technicians about what spatial planning is. We need it for across Europe, so it's really difficult to think about the harmonization so I think there is no technical development. Beside that, there are some ground borders across Europe. (hopefully I can provide you a contact, but the problem is that my boss is on holidays). I think beside this research you need many different opinions.

Q: Has the economic crisis any impact in Spatial Planning?

A: Economic crisis is not yet in the brains. They didn't recognize it until now. So, I think that no one thinks about it yet.

Q: How flexible is the planning policy?

A: Not too much. I think that should be an article in conference with the idea providing rule based systems against the traditional plans which can be more flexible in the future, but this is just an idea from some researchers.

Q: Have they studied about that idea or it is just an idea?

A: No. it is more a thesis, but nobody tried it nowhere.

Q: Why? If it makes the system more flexible, why don't you use it?

A: The Austrian administration is very, very conservative and old fashioned and the structure is conservative. The administration works in Austria is pretty the same with the one that Maria Theresia started. The administration reformed 250 years before, in 1760's. And the administration in some parts still work from the same time. They have the same levels. No changes.

Q : But do you think that some changes in the system would be necessary?

A : Could you tell them that? They don't believe me. I think this is one of the main problems . Not only for planning, but for everything. All of those are just my opinion but I am sure you can find some papers.

3. The role of central/national government, regional government, local government, the private sector, citizens participation in decision-making

Q:administrative structure of the country, number of municipalities, any recent changes in that?

A: we have these 9 federal states, and Wien is both federal state and city, and so in Vienna a member of the local government decision court is also a member of the state parliament always, and in Vienna we have these 23 districts and they are not at the level of local community . Mention this comparison to Berlin. In Berlin they have the level of a local community, the districts. In Vienna not.

Q: You said that in Vienna a member of the local government decision court is also a member of the state parliament.

A: In Vienna, if you are a member of the state parliament of Vienna you are also member of the local decision court. They make sessions in the same room and they only change their hats. And also the president of the local decision court is the same as the president of the state parliament. We have many functions there. In all the other 8 states, the structure is: they have districts, only administrative respects. and we have the communities. Local communities with 2359 municipalities. Sometimes they change or they are divided. We have in total only 14 cities with

spatial law, this is a tradition from 400 years ago, and they are also a district by law, some very big ones like the most of the federal capitals. There is also one that are on its own district and it has 3 or 5 thousand inhabitants only. It's quite different in size. I think the smallest municipality at the moment is less than 100 inhabitants. And it depends on the states. For example in the early 70's, the amount of the municipalities was from 2000 to 1000 approximately. Since the 80's, there were too many changes in the structure. For every 10 years , a municipality is divided and combined, but there are only few changes.

Q: The divisions are made for development?

A: Only for political reasons.

Q: The Austrian Constitution (date?) and how it defines the responsibilities among various levels of government, national/regional planning/social welfare between regions

A :The date of The Austrian Constitution is 1922 and there are recent changes. The special situation is that every law can get the level of Constitution that is decided with 2/3 of the parliament. So let me have a very, very obvious problem. We have a law which has the level of the constitution. How many taxes in a shoe and this is at the level of the Constitution. Very awful. And also it is very difficult to read because sometimes we have a law that only the paragraph 7 for example is in the level of the Constitution. So it is very difficult to find the right way to go through it. In any way, if you want to look a little bit deeper in one of the state laws for Spatial Planning is in low Austria. They have the best system to reform the law, because they really change paragraphs. They make another law, but they only include the changes of the law and we have several changed laws. That is very difficult to be read. Before the administration of low Austria was in Vienna because it was a part of low Austria, but in the middle of low Austria. It was in the government of low Austria but it changed 20 years ago. The court decision for where Spatial planning should go was in 1954.I don't know if it was 56 or 58 but I think 54. While spatial planning was not in the constitution, they decided that spatial planning is nearly the same as building houses, because the building law is from the federal states. Now the spatial planning is also from the federal states. This is the essence of the decision. The responsibilities are very strong on the Federal side. I think beside Austria does, only Germany bares so hot and the federal administration has nothing to do beside spatial topics like forests, water, some things that are planned only by the federal administration. These topics are not the zoning and not the building plans.

Q: How do the citizens participate in the decision making?

A: Actually, in some laws for building houses, environmental impact assessments there are some possibilities for citizens to participate and, for example, building a new house and change the structure of the building, they do decision for the small room and every neighbor is invited. In different laws, these neighbors are defined differently. Sometimes it's only the neighbor in the cadastre, in some laws like the Commercial law for factories things like, the neighbor is everyone who is affected. Every law defines who is neighbor and has to be invited.

Q: In some districts do the citizens play a bigger role in the decision making than in others?

A*: The smallest the thing is, the bigger the role is. In the spatial planning there are possibilities.*

Q: Could you give me an example of that?

A: In the zoning plan when you first publish it, there is a period of some weeks, I think is 6 weeks (but could be longer), when everyone can go to the municipality and the administration and give their opinion about it. And the planners have at least to answer the questions. Later on, it is very difficult for something to be changed by the citizens. And this is no true for the regional planning, there is no citizen participation, but for example in environmental impact, there is a citizen participation.

4. Is development permitted in areas outside the city plans? Under what circumstances? For what purposes? Punishments for illegal development

The zone planning is defined by the whole municipality. It defines the green fields, the forests and normally you don't get the permission to build outside the city-zones. But there are some exceptions. Firstly, some buildings standing outside, and they have to be mentioned in the plans, so normally in Austria every building outside the zones is mentioned in the plans. They have a building that stands outside from 1975 and is allowed to stay there and in some means that is possible to change something in the building. And second to mention is for rural purposes it is also possible to build something outside, but you have to be a farmer. Those are made for putting their needs and also to live there, but not only for living there. So there must be a farming house and you can have animals etc but it is not allowed only to live there.

Q: Is there a punishment if they don't follow the rules?

A: Theoretically, a decision can be made by the mayor of the municipality, who is the head of the administration of building, and this is the main problem of some things, because you have municipalities with 2000 inhabitants, so the mayor is more politician than administrator. And the second level of the decision is made by the local court. And there are no more levels of decision in building. So if you like to build something in rural area, you go to the mayor, give him some money and you get your building outside the zones and if there is a problem, the local community court has to decide, and it always decide like the mayor, because the mayor is in the same authority which selects the mayor. So, this is problematic. Theoretically, the mayor is allowed to throw buildings down that are not in the zoning.

Q: So you say that the punishment differs?

A: No, there is a legal possibility, but is much fared of use. So from the practical point of view, for this local spatial planning , I have never worked in the university, but I have worked in some communities, and did some spatial planning 20 years before. So you get more theoretical view and not the practical view.

5. development and implementation of new city plans

There is a big development area in the northern east of Vienna, and it's a little bit untypical from the planning process, because in former times, this area was an airport. When they did the second land piece of Schwechat, this one was in the way. It's a very huge development side in now and in the land is very easy to do different ways of planning. There is a planning organization called Aspern .

Q: it's the same as the station in the u-bahn?(underground)

A: one of the first things they did was to make three or four more u-bahn stations and the final station will be right to this development area. So Asperstrasse , now is the end of the line but in some years, in 5 or 6 years, it will be in the middle of the development side.

They did a master plan, that is not necessary by the Austrian law, and we know this company, you will get a contact. You can go there, ask them etc.What we don't have in Austria, is an example of a real new city.

New rural areas in city plans?

Q: How can a rural area be a part of the city? Do the villagers ask for the integration of the area?

A: the zoning plan is provided by the local communities, so they do the zoning. And the zoning plan reaches to the borders of the municipality. There is no part of Austria which is not in the zoning plan. So these zoning plans are, the zones of building houses, the green fields, forests rural parts. It reaches really the borders. The process of creating the zoning is very complex. The municipalities do it themselves or it is done by spatial planners, the commercial spatial planners. They have their own chamber that is called the chamber of engineers and architects but also there are the engineers for building bridges and the engineers building other things. They are all in one chamber in Austria. Some municipalities have those green planners, and when you start a new zoning plan, you have to do very much research about the municipality. The agent, the houses, the traffic, really everything. In law Austria it is specified what you have to do. It is a long list. And you have to do plans with all the sings, all the houses, the quality of the houses, how many people live there and this is a part of the plan. If you make a mistake there, they say in some parts, the court removes d zoning plan or some decision in the zoning plan because of mistakes in the early phase.

There was in Vienna, one of the great things, a sight getting stones out of the hill, some mistakes in this research and was submitted by the mayor to make the side bigger and all the plan was removed. It is not that easy because this is the first part. Afterwards, you can have also to give a prognosis how many people will live in the next 5-10 years in the municipality. And from this point, we have some formulas how you decide how much zoning you have to put in your plans. So the only decision of the planner is who to give it. To the west of the municipality or to the east. But all of those happen only if the planners worked as they should and the mayors decided as they had to.

After that, there is a decision of the local decision court, the municipality decision court. Afterwards, the decision has to pass the state administration, and they approve it. And sometimes, they don't give it the prove, because zoning is oversized. Also, when you start your first ideas how to do the zoning , there is someone from the administration of the state who guides you and gives you some opinion. For the processes there must be something written in the EU-project.

Q: Who bears the cost of the study?

A: you mean the works necessary to be done?

-yes

-the municipalities. The municipality pays for the zoning plans. And there is no monitory and no tax if your building gets sold in or out. So, if you have a parcel, and it gets from green field to building area from one day to the other, you don't have to pay, and if it goes the other way round, you don't get anything. And there is no "must" to build houses if you are in a building area.

Q: Which are the necessary plans ?

A: In the zoning plan, you have to include that there is a list full to provide your list. You have to include all higher spatial planning things. This can be land, streets, state or federal states, motorways, railways, red-yellow zone, very famous in Austria. Those are absolute-to-build-nothing-zone because of the upcoming snow, or the upcoming rainier. House are built away sometimes. But also sometimes the problems come from the mountains. There has to be provided several high level spatial info. Zones where trees are going to be planted in the future, so sometimes it is forbidden to build anything in zones where maybe a street is going to be built, and maybe is removed maybe is not.

Q: Is a cadastral survey needed?

A: *No cadastral survey needed. We have a very old traditional cadastre in Austria. It is 200 years tradition and also even the worst places have a very good cadastre, compare to other countries. So the cadastre is provided by the state agency. And also Austria maybe is the first or second country which had digital cadastre. The zoning plan is based on the Cadastre. We have a very good Cadastre. Only very few areas with a cadastre are not very fine. And the first service of the cadastre in Austria was 20 years before. And before that, they did one survey and it has at least 10 meters acceptance. For this time, that was a very good cadastre. And when they built up the digital cadastre, they took the old cadastre and also they took aerial photos. And in every point in the cadastre it is known if it is from the old cadastre or from a new survey. It is mentioned.*

There are two points of building plots. The plan is in scale 1/2000 and you have already mentioned where the streets will be. On the other hand, most times this is done by the parcel owners and the plan is changed. So this is a little bit ugly process in a technical view. Theoretically you should put the new streets in the plans already. But, most of the times, this is already done. If there are bigger parcels, maybe this is already suggested by the owners of the parcel. Impractical.

I don't think that there are annual statistics.

6. The impact of planning in the land-values in Austria (examples)

Q:What about the impact of planning in the land values in Austria?

A: Ok! We will discuss about it later.

7. Building codes, building regulation plans, building permits

A:While a new plan is built, the old one is still in use. As long as there is no new decision on the new plan, everything is done in the old one. So, this is when municipalities where merged in 1971-1972 and you have in 31st of December building permissions. Many. Because many municipalities, that they don't exist anymore, gave building permissions to their inhabitants. Really, as long as there are no new plans, the old plan is guilty. So even if the municipality structure changes. And there are possibilities to disallow for some zone building for 2 or 3 years, maybe different states not too often used. The only thing I know was use for motorways and railways. By the way, Austria has a very hard law if you build railways. It is possible your parcel to be taken by court, and you will get some funding, the decision is also made by the court. And beside that we now build some new railways in low Austria, really new, and this is done also for the underground. This law makes possible that the owner of a parcel has the right to get some funding if the underground goes through his parcel. The parcel in Austria definition is down till the middle of the Earth, and when the underground goes under your house, you should get some funding from the underground administration. It's a company belong to the city government. The decision is made by the court based on this law.

Q: Who is supervising the studies?

A: Hopefully, all the procedures are supervised by engineers.

Q: Are building permits registered in the cadastre/land registry?

A: Building permits are not registered in the cadastre. There is no legal combination between the cadastre and the spatial planning. They are side by side. You have in the cadastre the houses mentioned, based on the things you can see, the nature. I mean not the based on the building plans.

Q:Are there annual statistics for new buildings?

A: I will try to find an answer but I don't think so.

Q: Could you give me an example of a building permit with all documents and costs and timeframes?

A: We'll give you a contact with an architect maybe working outside of Vienna, because this is different association.

7. Policy instruments for development at the various levels of government

natural resources are plant by the level of the states and this is sometimes crazy, because we have a national park which is stated in 3 different states and it has in each 3 parts 3 different laws, with different restrictions. The park is called the "Nationalpark Hohe Tauern" and the three states in which it is stated are Carinthia, Tirol and Salzburg (the biggest part). There is another National Park, in low Austria and I am sure without knowing it that there are also differences with the laws. Federal law is one of the biggest problems in Austria. Sometimes. Sometimes is very nice! Protected areas are not needed to be owned by the states. In the national parks we

have many farmers inside who have to live the way that the restriction before the problems made by the law says. The percentage of the protected land maybe can be found in the statistics.

There are really different forms of natural protection. And while this is also a state law, this is different for each of the 9 different states, so we have 9 different state laws. And also different levels of protection and the protection zones are not in the cadastre. Forest development plans are made by the federal administration. So this is one of the only things that federals do in planning. And they have 4 functions, different function which are: a protection function, a commercial function, and function for "small holidays" and an one function that I don't remember right now.

Forest protection is very strong we have to mention. Austria has very huge parts of forests . The 2/3 of the state is forest, about 66%. And the forest development plans are also include how many trees you are allowed to take out. So it is very deep in details. I can provide you a contact.

Q: What about the revitalization of the villages?

A: The states put much money in these rural areas. Especially from low Austria. We will find a contact for you.

- Federal Office for Metrology and Surveying (BEV)

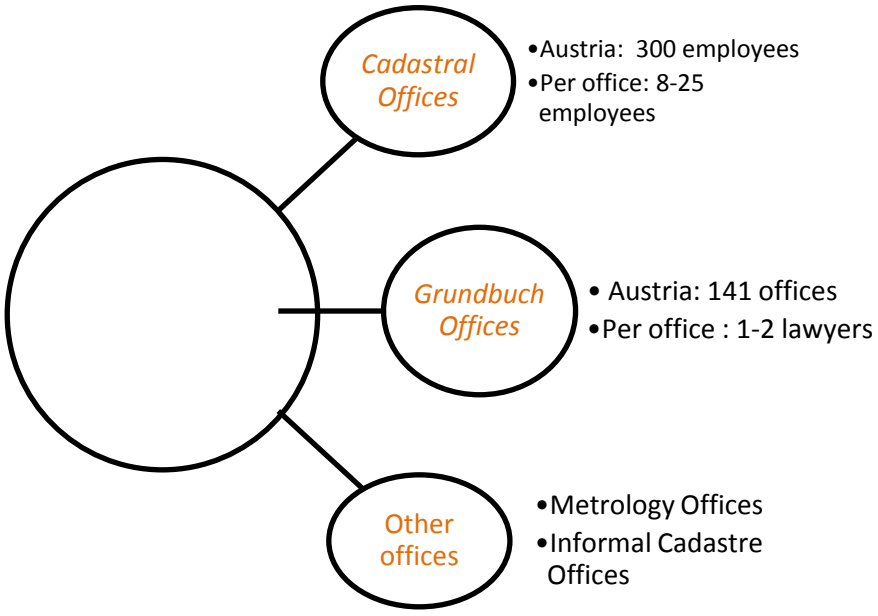
- Interview with Julius Ernst: Senior advisor for land administration and cadastral information systems as well as responsible for issues relating to cadastral offices. In addition, chair of Cadastre and Grundbuch Knowledge Network of euro Geographic's and representative of BEV in the committee on cadastre of the European Union and in the "Eulis" –Program.

Question 1: Can you give us a comprehensive description of the Austrian Land Administration System? Which Ministries are the main responsible?
-Of course. BEV is responsible for the cadastre and all the cadastral offices get budget from the Ministry of Finance. They mainly get money from the Ministry of Economic Affairs and Labour. This is the reason why it is considered that state has the responsibility of financing the set of the cadastral offices. There is always the need to give money for the personnel, for the employees' salaries, for investment, etc. Of course, except from this kind of general information, I can give you an extent description of what part of money goes to the state administration and for example to the licensed surveyors.

Question 2: We would also like to be informed about the Administrative structure of

Grundbuch and Cadastre. Could you outline the structure of both systems?

-It is useful for you to know that cadastre is represented through a set of cadastre and Grundbuch offices, which cover not only the case of Vienna's land administration but also the cases of all the Austrian provinces. Whole Austria totally includes one hundred forty one Grundbuch (141) and forty one cadastral offices (41). Generally it is difficult to be defined, how many people are working in each office, but I can say that the number of employees, who are working at the moment for all the cadastre offices, is estimated to three hundred (300). A bit more specifically, I believe that the number of employees ranges from eight to twenty five per cadastral office. The number is usually interwoven with the size of the office, so if one office is too small for example, then it will have around eight employees. Otherwise the bigger offices, like the paradigms of Vienna, Grads or Innsbruck, reveal about twenty three employees. The fact, which considered as really important, is that cadastral offices work with the production of maps by using the technology of GIS. The puzzle of the offices complements the existence of metrology offices as well as informal cadastral offices. The informal cadastre offices always work with the aim of supporting the function of the official cadastral offices, which have fewer personnel than the personnel they need .I could give you an example in order to understand better. In case of a new project, for example digitization, the small offices, which have around eight employees, cannot be able to finish the project without the support from other offices. Furthermore the licensed surveyors, who work in conjunction with the offices, are calculated to three hundred and they normally don't increase every year. It appears one kind of stability around this. Concerning to Grundbuch offices, I could only say that the lawyers, who are working for the Grundbuch courts, are one or two per office.



Elements of the cadastre and Grundbuch offices

Question 3: What financial elements would you consider as important concerning to Grundbuch?

- Grundbuch usually pays in order to cover all courts' costs and generally everything, which is connected to the legal administration. Courts lie under the Ministry of Justice.

Question 4: I would also like to ask information about the procedures, which accompany transactions/mortgages. Can you provide us a kind of flow chart?

-I will choose to refer the case of subdivision and merging in order to give you information about the steps that someone has to follow. When someone wants to subdivide a parcel or merge two parcels, he must consider of the provincial law. According to the law, sometimes it is needed to have the agreement by the municipality but sometimes it is not necessary. In cases, when the local municipality must provide an agreement/application with the aim of parcel's merging, the owner should first take the agreement in order to merge his parcel. The continuity is interwoven with the cadastre, which conveys the agreement to Grundbuch. Therefore the owner, who has taken the permission from the local community, returns to the cadastral office. The submission of the agreement accounts as really necessary. That's confirmed from the fact the even a licensed surveyor, who has undertaken the merging procedure's integration, has to go to the municipality to bring the agreement. Generally the merging procedure follows specific rules and requires a number of prerequisites. Consequently, it is not strange sometimes that some rules do not allow, by the first step, the parcel's merging. Furthermore, I could definitely say that the central core of the prerequisites is related to the parcel's owners, the municipality, where the parcels belong to and the cadastral background, which accompany them. Briefly the owner must merge his parcel when

1) The consisting parcels belong to the same owner (one owner)

2) The consisting parcels concern to the same mortgage

3) The consisting parcels belong to the same municipality

4) The consisting parcels have the same cadastral background. (For example it is not possible to merge 2 parcels, if one belongs to the spatial boarder cadastre and the other to the real tax cadastre).

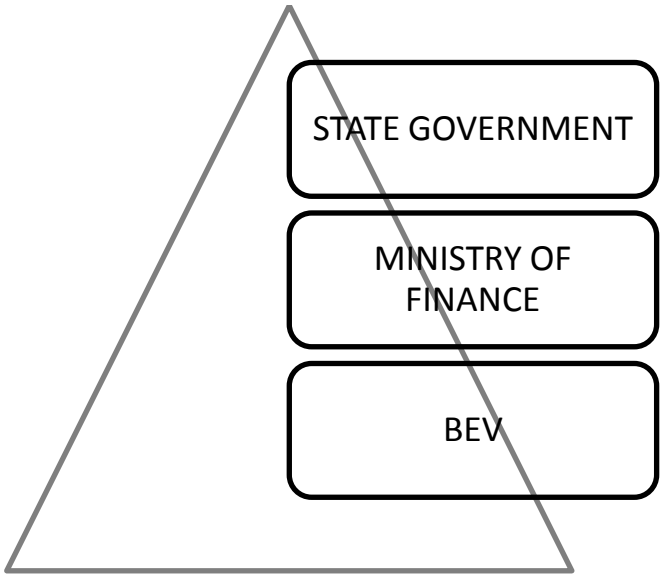
By the above, it is easily understood that the next step is connected with the compliance with the four prerequisites and especially the last one. In case that the parcel, which belongs for example to the real tax cadastre, must be firstly transferred to the same cadastre. Afterwards, it will be possible to be registered. Anyway, generally we can understand that it makes sense for the owner to apply first to the cadastral office.

It forms also a priority to merge parcels, which belong to the forest area and characterized by different usage types. These occasions' merging is dictated by the "forest" laws. However, the case of dividing a parcel, which belongs to a forest area, can accompany some problems. Last

but not least, I would like to highlight the involvement of the license surveyor, who takes part in the whole process from the beginning. His main task centered to the monitoring of the whole procedure and to helping by his proposals. A license surveyor usually makes the changes' documentation, which are collected afterwards by BEV and implemented to the cadastral maps.

Question 5: How can be described financial structure of the Ministry? For example which is considered as the main policy for giving salaries?

-I can say that every income, which is normally derived from fees and from the cadastral maps, returns to the Ministry of Finance. That happens because Ministry of Finance collects all the money and it sends them afterwards back to the state government. They form officially a part of state government. However, special agreements have been established with the aim of investments' conducting and database's as well as system's renewal. The official website's portal of BEV (www.bev.gv.at) forms a special income's source and it can be used for investments. There is a responsibility for skipping our budget (budget for investments). Concerning to salaries' policy, there is first of all a minimum contract that refers what kind of salaries it is need to be paid. If the employees are judged as really effective, their salaries will be increased.



Financial Hierarchy

Question 6: Relating to BEV's salaries, does it dominate a kind of standardization? In Greece for example, if one employee appears special skills, he normally takes a bonus.

-I can answer that in Austria these kind of model doesn't be followed. Salaries are always standardized and in case that an employee has a special function in the organization's structure, he will get a special income. A good employee usually gets a bonus, which ranged to two hundred Euros per year. This occasion indicates the existence of a literally special project that must be finished by the employee, who takes the bonus.

Question 7: Digital Cadastral Map (DGM) forms an essential tool for the representation and maintenance of topographic data with national coverage. Could you explain comprehensively in which scales Austrian DKM exists and in which percentage does the national coverage exist?

-Of course. Digital cadastral map, as you possibly know, forms the foundation for all processes, which are interwoven with the cadastral data. The method for the digitization of maps based much more on the digitization of the existing analogues maps rather on creating new maps. In 1883, when the first maps were integrated, the updating started. The permanent maps' updating was established by law during the decade 1980-90. The map, which has been created for the whole Austria, exists mainly in the following scales:

- *1/5000 (rural areas)*
- *1/2000 (urban areas)*
- *1/5000 (urban areas)*

The scale 1/5000 forms the usual scale, with which the maps of municipalities are created.

Question 8: What elements could you provide about the access, which citizens have?

-I could only say that BEV requires some special fees concerning to the access in the official website. Each citizen, even if he works as a license surveyor or as employee at a different Ministry, cannot take anything freely. The concept includes a public register. If someone wants to visit the website for any kind of data, he can visit it freely. However, if he wants to have a copy of them, he must pay a fee.

Question 9: Apart from the procedures and the theoretical background, it is also essential for us to be informed about the final products and services, which Ministry offers. Can you provide us information for the cost recoverability as well?

-Of course. Firstly BEV uses a budget for IT technology equipment's as well as renting needs. As you possibly know, the digital cadastre operates with the windows, so if a need for a new computer is presented; the Ministry usually has a budget, which ranges to 21 Million Euros. Totally the budget range to 75 Million and 21 Million destined for investments needs. The different payment's needs are usually connected to BEV rents (buildings, which roof BEV) and stuff's salaries. Rent is always interwoven with immobile companies and it is noticed, that now the 21 million Euros will be skipped. It is also predicted, that until next year 4.5 million Euros will be taken away, so the decrease will range to 20%. At the moment, Ministry presents the budget of 70, 5 million Euro. That fact, in my opinion, requires the reduction of the travelling costs. It is not always possible and necessary to travel with this rhythm. This kind of exaggeration emerges for the fact that BEV's stuff travel with the aim of GPS surveying (Boundary points, control points, etc). At this time, there is a project so the costs maybe will be reduced. Additionally, there is a priority now in the communications production between Grundbuch and Cadastre. This process must be digitized. Last but not least, the current needs include the Cadastre's digitization

not in an AutoCAD but in a GIS (geographical information system) version, where GIS data will be maintained.

Question 10: Do you think that the reduction of those 4, 5 millions (surveying costs) have their roots in economic crisis?

- *Yes, because it is characteristically referred that we had a large deficit and the expenses are very high. Therefore, the budget was needed to be reduced, not only in case of BEV but for whole Austria. The Ministry proposed the specific reduction (4.5 Millions) by supposing that in half year economy would solve the biggest problems. Maybe then, the possibility to take the amount of one million Euros with the aim of special investment would have been created. Nowadays in case that BEV requires for example the amount of one million Euros in order to finish the renewal of ADB, the answer would be negative. This answer due to the fact that such a kind of project it is not possible to be paid from the normal budget. During the next years we hope that the system will have a bit changed so that there will be a possibility to save money.*

Question 11: In the backdrop of global economic crisis, I would like to ask you in which level crisis has influenced Austria. Have you noticed important reduction of salaries?

- *In Austria it has been established a legal description concerning to the range of salaries. Consequently, the possibility to deviate from this spectrum is considered as really low. Firstly, it was preordained to change the relating law but unfortunately it did not happen in the end. Every year is characterized by discussions with the aim of negotiating with the union, which would conclude to an additional 1, 2 or 3%. For example this year forecasted that the reduction will range to 0%, but finally it was calculated as 1, 50%. However, I believe that generally Austria doesn't belong to the states, which were radically determined by economic crisis.*

The subsequent three questions are related to the diploma thesis of my colleague (Spatial Planning).

Question 12: I would also like to make some questions concerning to Land use and planning. Could you explain how Landry Adjustment is involved in case of making building plots in rural areas?

-Yes. Firstly, if someone wants to construct a building, he must ensure that the parcel belongs to an area, where building is permitted. The spatial planning law indicates it. In case that these areas are used for agriculture for example, it's forbidden to build there. Consequently even though a license surveyor accomplishes all the necessary actions for the subdivision, it is considered as impossible to create a building in the specific area. Generally, I could say that

spatial planning can describe the procedure of a parcel's subdividing even in cases, where there is not the possibility of subdividing a parcel, as the owner wants. That's normally happens in urban areas, where the parcels must follow specific prerequisites, as having special size (not too small and not unusable) and access on public land. It's also not possible for an owner to subdivide a parcel, which belongs to the zoning plan and has a front side's length, which overtakes the boundaries' length.

Question 13:In Greece in case of building in rural areas, the owner must pay a small fee for the rural area (park for example) and also must give a land piece to the state with the aim of making a park or a road. In Austria do we meet "contributions" of land and money?

-I could answer that contributions basically depend on the type of the specific area. I would show you a paradigm at my laptop in order to have a more integrated idea for this. For example, it would be not strange that Landry Adjustment requires an area with flats and buildings, where a hill exists. We also notice the existence of a public street. In case that someone wants to create a building there, Landry Adjustment provides information about the line, which must not be exited. Afterwards it is allowed to build a house at the specific area but in some cases the owner has to donate the residual area for free. That fact also depends on the area, where the zoning plan was made. If the area belongs to a central city, in Vienna for example or somewhere else, where the parcel's price ranges to 1000 Euros, it will be not donated for free. However, the owner usually follows the depth limits, which are established. The depth limits determinate how many meters someone must donate freely. Therefore, an owner usually donates the half length of the total street's length. We meet also other reasons, why somebody has to pay additional costs. Usually that happens with the aim of transferring land from agricultural to building use and providing electricity, lighting, paving streets and water. A pivotal issue that always must be considered for the amount of money which must be paid is the size of the parcel. It is considered as equally important to understand that rules differ from municipality to municipality. For example I live in a rural area and my municipality is really interested in keeping a lot of people in this area. Therefore, the parcels' prices are characterized as really low, sometimes they range to 5 Euro per sqmeter. In cases that someone builds a house, he can continue to live there without paying something additional. That can be easily being explained because the municipality collects money from taxes. Taxes depend always on the number of inhabitants, who live in the municipality. If someone wants to take a piece of land, he has only to pay once. In case that there is a house at the top of a parcel and the owner wants to remove it and create a new house, he must donate more land. There is also a possibility for the owner to take a piece of land back because a street for example was planned smaller. These cases indicate the inclusion of public land. Maybe it will happen that the owner must pay for this land as well. It depends on what is donated for free, then he gets it back for free and if he got money for it then he has to pay.

Question 14: How would you characterize the cooperation with the municipalities relating to spatial planning?

-In Austria, each province is considered as a federal state, so each municipality must agree with the Regional Zoning plan of the provinces government. There are totally nine different spatial laws, which apply for all the provinces. These Austrian spatial laws differ from district to district. However, we meet also differences not only in laws but also in regulations, which term to each province. That forms practically the reason why each municipality has to make an agreement with the federal province, where it belongs to. Provinces always determinate the laws and the general rules.

Question 15: Could you explain what means taxes on assets (Grundsteuer, Vermögenssteuer)?

-Now the inheritance tax is skipped but in case someone sales a parcel, then he has to pay the price of purchase. He has to pay a fee but he has to pay some taxes if he donates it for example. Social insurance is based on the tax that arises from the tax on assets. It is basically the land value as it is determined by the land tax. Land tax is based on the value of the land. Land value is the value that is expected in case that someone tries to sale a land parcel. Tax on assets is exactly how much value someone owns. Furthermore there is a different land tax which is not connected with the value of the land but what the amount that someone gets is considered as revenue. Someone pays for having land a small amount of tax and that is based on how much he can produce as income with that piece of land in an average use. Also there is much of political discussion about that. This kind of taxes is based on the recycling soil evaluation (low taxes). If someone sales the land he will get more than this value which is produced. We should base taxes on the amount of value that someone would get if he can sale the specific land (landmarketvalue). Sometimes tax is estimated as the 10% of the land. In United States the value of the land changes if the spatial planning or the zoning planning alters. If a parcel was located before in an agricultural area and now is in an industrial or a recreational area, the value of the land will significantly change. Therefore the only person who takes advantages from the specific case is the land owner. He doesn't have the obligation to pay for that increased value. In United States in case that a land owner benefits from the land parcel in that way , he has to give back a part of that additional income when he will sale it. Even it is internationally being discussed, that doesn't happen in Austria. For example, farmers especially always pay less tax for their properties than they have to. Land taxation system starts in 19th century, when the biggest part of the government income was produced by farmers. That completely changed because it was never adapted to the changes of the society. During the next years the system would a bit changed so it can be possible to save and spend money. At the moment though is not possible.

Question 16: As regards to the field of Cadastre, would you provide us information concerning to the process of Registration? It is always considered as one of the most important procedures.

The owner gives the order to a licensed surveyor to subdivide a parcel. He says that I want to subdivide my parcel and he gives information for the sizes of both sides. Then the licensed surveyor gets an act so he makes a negotiation with the owners. It is really important to produce

this surveying document which is the basic information to register the negotiation with the owners. If there is an agreement, they sign it because signature is an essential in this procedure. They surveyed the parcel and they produce this surveying document. The surveying document, which is produced by the licensed surveyor, has to be subsequently checked by the cadastral offices. So the owner must make an application to the cadastral office. They make a formal checking so everything is technically correct. That fact happens because the cadastral offices have some descriptions, mainly coming from lawyers, which represent what must be included in this surveying document and all these procedures in order to be technically correct. Especially in case of using the actual Cadastral map. The surveying procedure lasts a few weeks or months. If the cadastral office has changed something there will be a problem. They have to check if everything is ok and then the owner gets the certification which is necessary for the local court (Bezirksgericht). Local courts will not register the surveying document without this certification. The the first step encompasses the surveying documents and the signature of the owners. The next step is that the owner goes to a notary or a lawyer. Though is not necessary that someone has to go a lawyer. He can go directly to the local court. Normally they use the support of the notary so the notary makes the contract. Therefore in the first step the parcel with the number 1 for example is now divided to 1.1 and to 1.2. The owner wants to sale one part of it for example. Then he needs a contract to sale this parcel because it is essentially needed for the Ownership Kataster (Grundbuch). Also he needs the surveying document and some other documents for example an agreement from the local community to subdivide this parcel in case that the parcel belongs to a special planning area. Those kinds of agreements are needed especially in urban areas and in some provinces. For example in Burgenland the parcels are very narrow and they want to prevent the division of small parcels. The size of the parcel has to be at least from 10m and 2000 sqmeter (area) so that it can be divided. In addition, some cases require the permission from the forest tree agency. Normally the notary brings all the documents and the application to the local court and if everything is judged as correct, the local court directly changes the information at the data in the part of the Ownership Kataster. It is already known that there is one common database between cadastre and Land Registry. At this stage they change the owner, the mortgage and they write correctly the new information. This kind of information cannot be seen in the Kataster (owner and mortgage). This decision by the courts, which is directly included to the data of Grundbuch, is transferred now to an analogue form in the cadastral offices. They make a big project to make this process digital. They have to print the analogue form and sent it to the municipality, to the owner and to the cadastral office. Now the cadastral office takes the surveying document that has the certification and they have in their archive and they can change it in the Kataster. This period ranges from minimum 2-3 weeks to maximum 1 -2 months. This is the period between the local courts. This happens because sometimes the local court indicates when the decision is needed to be made, but it isn't really needed to send the paper directly. They can wait 2 weeks to send it just ones. During this period the cadastral offices change the information in electronic forms. Subdivision of the specific parcel must be included to the process of the certification. In the Cadastral map, one layer is the legal layer (legal certification) and the other is the preview layer. When cadastral offices get the surveying document, they update the preview layer. Also at this stage when they have the

decision of the court in an electronic way the subdivision is brought from the preview layer to the legal layer. Those data compose the electronic process. The required period lasts from one hour to one day. The next day is visible to the actual DKM. The digitization is a prepaid program, which should have started at 2010 but due to some problems it is supposed to be finished at 2012. It must be clarified that the licensed surveyor is necessary to send this surveying document in an analogue form. But BEV gets a link from the archive of a local surveyor because they are forced to store all the surveying documents. The law since 2 years says that a document is considered as a certificate document only if it is stored in the archive of the licensed surveyors. Licensed surveyors have a big centralized archive for whole Austria and each surveyor includes his document in this archive. They sign in an electronic form and the whole way is electronic. Kataster takes a special document in pdf form (pdf version for long terms archives). The surveying certification is available for 18 months. The owner has to bring within this period this surveying document to the Ownership Kataster. If he brings it later, it would be because the owner wonders if he wants to sale or to subdivide it. Normally the time depends on the actions of the owner. This period was estimated at 2 years but now they want to reduce the duration to 6 months. However this was politically impossible. The licensed surveyor goes to the municipality and requests for taking the permission. In reality he makes a preview of the surveying document, goes to the municipality and asks if the subdivision is correct. If everything is acceptable, he gets the official permission. Normally in the municipalities this kind of permission can takes days or week. In small villages if someone wants it, he can have it in one day. In Vienna the procedure now is really fast. Someone can get the permission hopefully within 6 months. One or two years ago the period was used to last 2 years.

Question 17: Does Austria have 3D Cadastre?

-Austria has all the prerequisites in order 3D Cadastre is not needed. That happens because it would be possible for example if we had the opportunity to show it in the cadastral maps, to show the legal parts in the Ownership Kataster as well. It is usually not used in Vienna because it would be really complicated. They haven't even applied for this. Also technical infrastructure is not very easy. Especially if you think that something always changes and you use absolute coordinates then if the ground moved down what will you do in 100 years if something is different?

Question 18: Can you get the products only from the website or you can request for them from somewhere else?

-You can get everything from Internet but it is possible to get data for free if you go to the cadastral office. If you go the cadastral office and you say << I want to have a look at the map, please show me >> then it is surely for free. But if you want to take a copy (you are able to have a black-white copy) then it will cost you only 50 cents (copy costs). Therefore it is cheaper for someone to go to the Cadastral office. A few years before, everything was in analogue form. You also can have a copy from the old documents but if you want a real extract, it costs 2-3 Euros as it would cost from the website. Therefore it is completely the same because the people in the

cadastral office use the same tools. There aren't any more paper copies of cadastral maps because they don't need them.

Question 19: Which is the Connection between Kataster and Spatial Planning?

-For the new areas which are encompassed to the urban planning it is not necessary to do new surveys. Spatial planning only uses the cadastre as the basic information. Moreover cadastre is available for all Austria. There are no parts of Austria where they don't have cadastre.

Question 20: Could you provide us some examples?

- Of course, I can show you the following (He showed us some examples from his computer).

1) Soil evaluation map

Cadastre is the basic and the license from the soil evaluation is depicted there. The spatial planner makes his zoning plan with the help of cadastre. He has to use it. If you define for example front lines of buildings or boundaries of streets, you should use the existing boundary lines. The problem is that if you press the owner to buy land from the street, e.g. someone who will buy your property in direction of the street, it may happen that there are public sources and then you have to remove it. That cannot be a private- owned land and that's why the cadastral lines must be used.

2) Merging. Merging needs the following;

- *Name of Licensed surveyor,*
- *Surveying document,*
- *Official stumps,*
- *Electronic signature and*
- *Cadastral map.*

The owner says that he wants to merge this land parcel and merge this part and this part to this parcel. This is a very simple example and this is only the first step. The second step is that he will subdivide this parcel.

Descriptive characteristics:

- *Owner,*
- *Number and*
- *Size.*

The number of the one parcel will be deleted and the area goes to the other parcel. Then the example shows the updating of the database entries. The next step will create a new parcel. This parcel is a certain example because this is a big parcel so he produces a new parcel. Then you get the clear technical surveying documents:

- *Number of the control points(given by the database of the BEV),*
- *Boundary points etc,*
- *Land cover (if the area is agriculture or full of gardens for example),*
- *Coordinates of the fixed points,*
- *Standpoint points (the points that they put the surveying instrument, where they make the surveys)*
- *System,*
- *Scale,*
- *Results of the adjustment and*
- *Quality checking (That proves that everything was made in a correct quality).*

In the last page an analogue document is needed. So this page shows an original copy from the digital document. That will change in 3 months and then it will be needed only a digital copy. It must be also mentioned that. The surveyor has to be sure that all the points are the right points. Before he uses them, he must check it.

3) Typical subdivision

-It is a new boundary line between the 2 parts. There are two parcels after the subdivision. This is for example an area; this is 5 meter from the public road so that the house has access to the public land from its back part. The owners have a private agreement (signature) about the position of the boundaries. This is documented and made publicly available so it can be given to everybody. Everybody who purchases the land later, he can say that there was an agreement and that these were the boundaries. So there isn't a discussion about the position anymore. And someone cannot even go the court. The coordinates of the boundaries cannot change. Also it is needed to have a signature and a surveying document. First you found an agreement and once that is done its valid for all the time. If you want to make changes you have a new agreement.

4) Access in BEV

-The normal site of BEV is www.bev.gv.at. This is the same for anyone. You have to go to the mandate- apply (Anmelden) and you have to write your email address and your area. Then you have to go firstly to the "Shops and services", later to the shops. There you must ask for what exactly you want and in which area. For example Mr. Ernst knew the name of the Municipality he lived. Otherwise if someone knows the number of the municipality it is exactly the same. The only difference between us is that the price for me is zero because I have registered as an employee and I have not to pay something. This will cost something for you. Then it asks you if you want to pay and you reply yes. Then you write your city and know where it has to go. Afterwards you ask for what you want and in this case I would like an extract from the cadastral map. This is the preview of the whole area. At this moment I give the number of the parcel so it would be more specific. The next preview it asks you if this is the parcel that you mean. I reply yes and in the next step it asks about what you want. I ask for the extract from Kataster

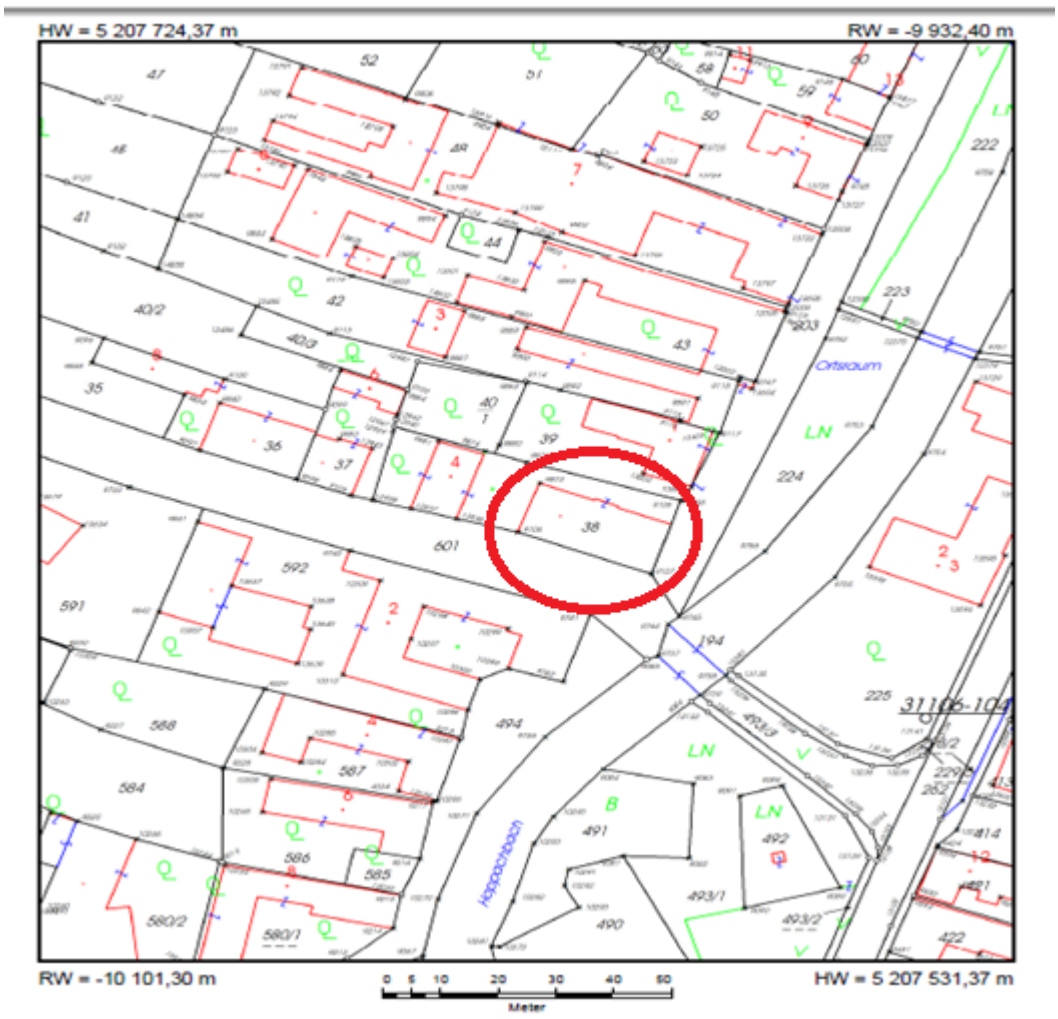
(Cadastralmapverzeichnisse). Now you can see the product in the digital cadastral map (DKM). The descriptive part comprises the following elements:

- *Boundary lines,*
- *Boundary numbers,*
- *Boundary points (with a number or without a number)*
- *Parcel number,*
- *Land cover information and*
- *Owner.*

And in this point I can say if I want to have it together with an Orthofoto. But if I ask for a scale of 1:1000 it says that this combination is not possible. When I change this to a scale of 1:2000, hopefully it is possible. When this finishes, you say ok and now you can ask for information about how much money you have to pay. You get information about what you ordered. For this area I selected if I was not an employee, I would have to pay 2-3 Euros. You can get the original vector information by paying 10 cent per parcel. In the case you want information which is 3 months older it's 10 times less, its 0, 1 cent. Then I say this I want. It asks you if you really want this and I answer yes. Now you ask for sending you the order. Now you have to wait for an email. This process will be direct and hopefully you get this ok that allows you to take the information from the BEV shop. In this mail they thank you for the shopping and they inform you that in a few minutes you will get an email with the product. I say if I want the product in pdf format or in digital version. It usually lasts 3-5 minutes to get the products but it depends also on how big is the specific area. If the area is big, it lasts longer. Then I will get the original data. Although we must wait now or I can show you what products you can take. It lasted eventually 2 minutes. That procedure was too fast to get the product. The email has the link so you can download the pdf with the product. This data which are describing the product are the following:

- *Date,*
- *Area,*
- *Number of the parcel,*
- *Address,*
- *Owner and the*
- *Number of the parcel in the Ownership Kataster.*

In this case I got what I ordered now (cadastre in combination with the digital cadastral map). This is my house and afterwards is the descriptive information.



-Parcel number: 38

- Area: 700.091 sqmeter

They refer that 300.081 of these is the building itself and 277.000 are attached with the concrete. The rest of the area encompasses the garden. Afterwards I can see the name of the owners: Julius and Cornelia Ernst. Later there is some information about how I can use this data. What you cannot get from our portal (BEV), is the information about (encumbrances). This is not possible. But I can show you public information for example the old real estate database. There are seven different links where you can have access in the same database. Everything looks the same but it isn't. This is only the descriptive information and not the cadastral map. I can show you the number of Ownership Kataster. Now you can see all the information in another way. It says that the number of the parcel is 38. This comes from the cadastre. Then you can see the owners. Ownership Kataster has 3 parts:

- *A PART* ⟹ *parcel*
- *B PART* ⟹ *owner*

- *C PART* ⟹ *mortgages*

The size of the parcel included to Grundbuch part. There are also another data, coming from the bank. This is the credit I got from the federal province to build the house. This is public information. If you go to the municipality or to the cadastre office and request for the number of a parcel or the address, they can inform you about the mortgages. This is not forbidden. The owners of the neighboring parcels may have the right to put lines there or cross the gardens because in huge parcels is a tradition to use parts of the land for specific purposes. That can also be shown in the Grundbuch. The land use database has no connection with the real estate database.

-Ordering Dokumentation

The information is the following:

- Dokumentation of the order
- Cadastral Map, Catalogs PDF
- Date of order : 27.04.2011
- Number of order: 0000409569
- Address of BEV: Schiffamtsgasse, 13 1020 Vienna, Austria
- User: julius.ernst@bev.gv.at, email: julius.ernst@bev.gv.at
- Selection Parcel 1 Object, Overall View

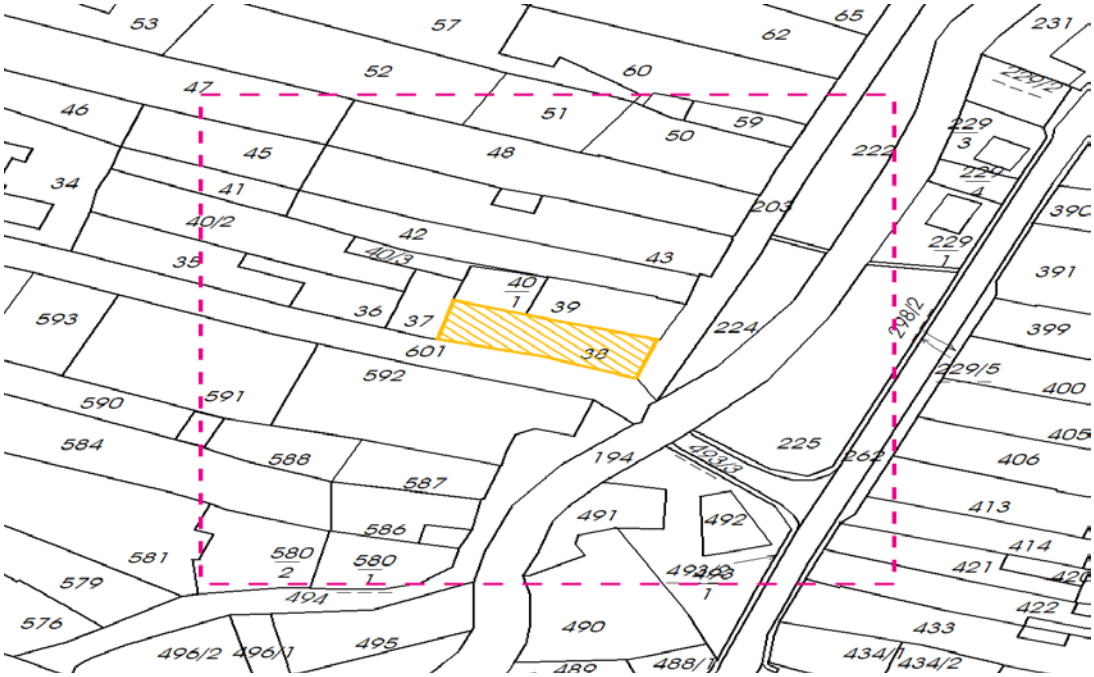


Figure: Extract from Cadastral Map

Also they are provided the following information.

- *Cadastral Map, Catalogs PDF*
- *Surveying Office: Oberwart*

- *Cadastral Zoning: Eltendorf (31106)*
- *Map Sheets number: 742124/2, 752117/1*
- *Coordinates Framework : MGI Gauss Krüger M34*

- Interview with Philipp Fleischmann: Land use and district planning. Municipal Department 21B

Q: My diploma thesis is about spatial planning in Austria but I want to focus in Vienna because in some papers it is mentioned that every federal has its own laws that are different from federal to federal. First of all, a description of the spatial planning in Vienna is necessary, what are the responsibilities, the procedures for making the spatial planning, what are the scales that you use, the kind of planning like urban planning, landscape planning, if there are any changes because of the climate change. Also, it would be interesting to search about the manners that the Austrian government use to respond to sustainable development. The harmonization among Europe. In addition, I would like to know about the new city plans and last but not least the building codes nad the permits.

A: I cannot answer every of these questions in detail but I can give you some general answers. This book that I provide you is the masterplan of Vienna that elaborated in 2005 and is the last one. You can keep it. Inside you can find the maps and the strategies of the new plan. And the strategy with the prospective of city plans, and also invest us some guide line. And the next step, we have local zoning plans that are in scale 1/2000. So the local zoning plans are legally binding, because it is written the height and the width of the buildings and also the capacity of the flats that you can build inside. If you have a closed shape,if you should build a house, the lines of the distance of the street and also defines the categories like if the area is industrial or traffic or commercial, residential, green etc. Those planning have to based on this (the “STEP05”).

Q:There are the categories inside the book?

A:There are no categories. However this book is not legally binding but so there is a little bit space for interpretation. In the city development plan 2005, it was the last one, the next one will be in 2015, so every 10 years there is a new city plan, we define so so-called target areas of city development. the city government considers that there should be development and improvement in the next years. For example, we have the Danube Channel,(the See aspern).

Q:Has to do anything with the univer City 2015?

A:Not actually, the univer CITY 2015 is another project

Q:I ask because in the project of UNIVER City, one of the components was that the TUW would be transferred in the new Aspern city so it would be intent in a campus and not interspersed in the city of Vienna, but after a voting inside the university the decision was negative, so the University still in the same location but there are some thoughts of centralizing it.

A:But the development Aspern is based on the city development. Because the city decided, the city council actually, that here there will be intensive development. In this city development

plan of 2015 the target area is already defined. And what is special about this plan is that we have the regional context in it, with Bratislava, two capital cities, very close together. You should consider the background. Back in 80's , Vienna was a little bit isolated because part of the Western Europe was on the very edge. And then we had a new situation, so we reacted on this new background with a new development plan and we interstate a context with Bratislava. Have you ever heard about the " Central European Region" ,"CENTROPE 2003"? it's the region between eastern Austria, southern Moravia, western Slovakia. And this project started in 2003 and is just a part of closer cooperation between these regions. So we have those two levels, city development plan and local zoning and then we have the traffic plan that is called the traffic mastrplan from 2003 and in the next city development plan of 2015 , they will be together, because the last traffic masterplan was published in 2003 , two years before the city plan so now it should be on the same time.

Q:But there are no changes in the Masterplan of traffic?

A:Actually I don't know about those changes but the public transport will be supported by bicycles. And also innovated kinds of transport are included. The city of Vienna also elaborates landscape plans for certain regions of the (10;05-11:30) the landscape for

There are also some old masterplans which should support the protection of the Vienna's woods for example, the parks, of the Danube, and high protected areas also for recreation. And then we have the building permits, individual acts if somebody wants to build a house then there is a procedure and the authority for that is the department (MA) 37, that is a building department(12:20)

Q:This traffic masterplan is made for the climate change? Has to do with that?

A:Yes, there is a climate stratefy in Vienna and Vienna should support the reduction of CO_2 and at the moment we are proud of this situation that 2/3 of the traffic is contacted by the public transport, walking on foot or by bicycle and only the 1/3 of the population use their cars. In detail you should watch while you are in the center you have a high share of friendly means of transportation and the use of the car is reduced.

Q:So this is the manner that the city of Vienna uses to reduce the emission of CO2?

A:Well, this is one strategy and the other one is the using of friendly means of heating and there are also a lot of projects that show how you can use the roofs of the buildings by putting solar panels, also for electricity. And we are on the same time running a project that concerns the innovation of the houses, especially from the 50's and 60's for isolation, so you can reduce costs of heating. It's founded also by the government of Austria.

Q:Do you have any sample of those plans, a map, some examples?

A:There are maps in the book of STEP05. And I have to ask my colleagues for some other maps.

Q: So, who has the responsibility for the plans?

A: The city administration. The debt to elaborate the responsibility has the city council, they decide about the plans. So, I would say that the politicians have the responsibility.

Q: And what about the plans? Are they elaborated by a private architect?

A: No, the plans actually are made here (in the department of urban planning of the municipality), but some private companies help us. For example with the layouts, with the professional texts, in the stocktaking. They give some support but putting them altogether and generally the responsibility is elaborated here. And also I would like to add, that there are many department for any plan. For example, this one is for the zoning plans.

Q: I would like to know how the Austrian government response to the sustainable development through spatial planning, but I have read that the spatial planning is made by each federal state, so I am not sure if the Austrian government has something to do with the planning.

A: Yes, you are right. There is a so-called "Austrian Spatial Planning Commission". It's a buddy of people, it's an office simulated to the chancellor office. And, actually we don't have any ministry of spatial planning so the task of this commission is to coordinate spatial planning in Austria, although as you told the responsibility is taken by the government is every federal province. So at the moment, they elaborate Austrian spatial development concept for next 10-20 years.

Q: But you don't think that the fact that there is no a ministry of spatial planning may causes some problems? I mean that every federal state has its own laws that may differ from those of other federals.

A: It is a problem in fact, you are right. And that is because the strategies are holisted many times and also they are separated. In addition, the law that refers to the buildings is different. They tried to unify a little bit now but the provinces in Austria are allowed to make their own law, and if you want to change this, you should change the Austrian Constitution, and the governors of the provinces are very proud for their own identity and maybe they are not interesting follow one Austrian law. They are interested working together in fact, but at the same time they voter, they are not that satisfied, it is regional. For example in the Eastern Austria they have the planning association East, that is a cooperation between Burgenland, Lower Austria and Vienna. That association is already exist since 1979. And its task is to coordinate especially traffic planning and spatial planning development. If you are interested in this I can give you a contact.

Q: Do you feel that Vienna is more developed than other cities in other federal states?

A: Well Vienna is the capital and also Vienna has a lot of function and it cannot be compared with other cities in Austria.

Q:I mean also more developed referred to the planning that is made here. And maybe the laws that valid here are more beneficiary for the development of the City.

A: Yes. I would say that each province in Austria is proud of its planning law. For example in Saltsburg they have a much innovated planning law, because they try to force owners of grounds to rebuild houses and not only to speculate. You know, if you have an empty ground, you can wait 10-20 years until the price increases. But this is speculation and this is has the effect that some grounds are empty and on the same time some other places are full of people that want to build a house. And so the province of Saltsburg tries to force the owners to build a house within a limit of 3 years.

Q: Did they manage to do it?

A: More or less yes, but they only react in this direction but they have problems with the constitution because the private property is highly protected, and that is a risk. So if you force somebody to build a house between 3 or 5 years, maybe he claims that the law in constitution says that is my decision if I build or not. Maybe comparing with other countries, for example with France, it is more difficult to give your house to build a new road because in Austria if somebody owes a ground is protected by the constitution.

Q: And when it is needed to be a new road and somebody owes the ground what are the procedures? Did he get any compensation of money or land?

A: Yes, you should give them money and land. In some cases maybe only money. It depends. For farmers for example.

Q: Speaking of rural areas and farmers, I would also like to know how a rural area can integrate into the city plan? What are the procedures? And does a land readjustment take place or contribution of land and money?

A: Yes, the city has to pay them and if they pay them before, many years before the development because the prices are law, because after the development the area around the farms is developed and as a result the prices are increased.

Q: Do you feel that the economic crisis has an impact on spatial planning in Vienna?

A: A little bit. It is not so strong. Many projects were planned already years before. Some invest us more conscious but the parts of the city of Vienna through this crisis a little bit reduced. Vienna has the luck to be independent in one part of the economy and there is the sector that the companies are many so Vienna is not impact in that economic crisis.

Q: But the companies are depended on the global economy and as a result are impacted by the crisis?

A: Well, there are many global companies that are influenced but there are many other companies that didn't left Vienna and stayed here. Maybe the unemployment percentage was increased but now is again decreased in Vienna.

Q: You mean that this happen because you don't rely on Austrian government money but on companies to produce the planning in Vienna.

A: I mean that the economy in Vienna is more independent. There is a big variation in economy. Especially in this sector.

Q: In Greece, we stopped every planning because of the crisis. That was a big impact. In Vienna did not happen something like that, right?

A: But in Austria we proceeded years before. Also the city government has to save money. Also in Austria the banking sector is quite stable. Comparing to international banks in Austria we manage to handle with it.

Q: Actually we met a bank director and he said that the economic crisis does not have a great influence in Austria's system.

A: Yes, you are right.

Q: Furthermore, I would like to know how flexible the Austrian system towards the new situations is. What are the Vienna's policies against the new changes?

A: This city development plan is quite flexible because this is not legally banding. For example these bubbles are not a strict line. You can use them only for interpretation. But the local zoning plans, they define already law and the punishment and who can build what there and thus they are not so flexible, however if there is a public interest in some changes and the planning system can react quite well. There always are two strategies if you be very stable on the one hand and on the other hand if you are very flexible in planning. From Constitution side you should know what you have to expect (30:20) so if you change plans so quickly, if you change the city development plans every year, the people would go crazy and this is against the law somehow.

A: In Greece is not flexible at all I think. The plans change dramatically slow. In addition I would like to define the role of the national government, but as I read the planning is mainly elaborated by the local government.

Q: Yes, this is right but Vienna is a special cases as it's a province and at the same time community. So the province makes the building and the planning law, but the city of Vienna, the community of Vienna (the municipality) passes the city development planning there. Local zoning plans and land zone using plans.

A: As far as I know there is citizens' participation in decision making in the city of Vienna, and I would like to ask what the procedures are for that approach.In general, for the biggest task, for example now the main train station is rebuild, the citizens are involved in a very early stage with some information, some evenings some information evenings, there were many leaflets allocated and there are people that are responsible for the citizens' information about the new tasks taking place in the city. But as I said, everything depends on the task. In many districts we have this so-called kratiersmanagement that is an office, a local office that employs landscape planners, urban planners, architects and also social planners, and all of them work together and if you have a problem, like if you want ot have some trees in your backyard or something is happening in your neighborhood, you can go to this office and they will help you providing a solution for the problem you face.

Q: But who has the right to participate in those decision making approaches? The citizens that are influenced by the new task or all of the citizens of Vienna?

A: There are those offices in some districts in all over the city. Not in every district but mainly near the "Gurtel" .

Q: Do you know in which districts?

A: For example in the 15th, the 16th , 17th, 20th, 12th .I will give you the internet address also.

Q: Are there any problems in citizens participation, any delays or any problems in coordination among them and the governmental levels?

A: Sometimes the citizens are not satisfied by the solutions are provided, because they are afraid that the quality of life will be decreased. They believe that if somebody builds a new building in the neighborhood or a new street maybe they will have some problems and also it is

the power of the media. If the media put some pressure, I mean for example if some newspapers don't want some projects, they manage just to cancel the project by writing that the citizens will be not content with the new change. The media's pressure has a big effect here in Austria. This is not the best way of presenting the citizens' reaction towards the new project. The city government should adjust some meetings with them, to explain how the new project could improve their quality of living and what would be the impact on their lives.

Q: May you have an example of a newspaper's pressure stopped or changed a wannabe project?

A: Of course! There was a park in the 14th district, it is called standroof that is near Hutteldorf. There was a park in late 70's- early 80's. the city wanted to build some there and the citizens were afraid that the quality of life would be decreased, so they start protesting against the city's decision and the project changed. Do you want to know also about the Agenda 21?

Q: Of course we wanted to ask about local Agenda 21.

A: Perfect, because in many districts there are those groups that also involve citizens. So what has to do with culture , energy, bicycle traffic requires the citizens' participation.

Q: Nice, because the next point I wanted to raise was the harmonization among Europe.

A: Not actually. We also find this appropriate for the citizens having an opinion about environmental issues, social matters and economy.

Q: Local Agenda 21 is one of the United Nation's program that is wanting to take place in every country. I mean every country in Europe has to be harmonized with the *Local Agenda 21.*

A: Yes, that is right. It is a resolution of U.N. So, in Austria we have those local groups. Do you have them in Greece?

Q: We try to have them! The "idea" of Local Agenda is not as developed as in Vienna.As far as we know, development outside the city-plan of Vienna is not permitted. Are there any exceptions to that?

A: No, it is not permitted. In the city and zoning plans, the use of the fields is defined, so it is not possible to build if is not reported in the plan. You must follow those regulations.

Q: But, are there any circumstances that building something outside those plans being legal? By saying building, I mean a storehouse for agriculture reasons for example.

A: Yes, this is allowed, but only for farming though.

Q: And, those buildings are only for putting the products inside, or for living inside also?

A: I am not sure about that. I know that in other provinces they can also live inside, but in the province of Vienna I am really not sure.

Q: But in the hypothetical case that someone builds outside the limits of the city plan, what would happen when the Municipality finds out this?

A: It doesn't happen very often, somebody to build a house without permission. It has happened, but the penalty is huge so they are afraid and thus they prefer not to build illegally. But you have to ask in MA37 for more information about the procedures.

Q: Next point I would like to spell of, is the development and implementation of new city plans. First of all I would like to investigate the procedures for integrate a new rural area into the city plan. And also what are the studies for that, like cadastral studies, hydrological studies etc?

A: Yes, all kind of these studies are required for the implementation. Architecture, hydrological, studies about the green areas protection, social infrastructure of the kindergarten and the schools, the public transportation.

Q: For all of these studies, who bares the cost, the municipality or the private companies?

A: Well, these studies are elaborated by the private companies, but not only. It's in a collaboration with the municipality, as we (the municipality)always check them.

Q: Are there competitions among the private companies so the municipality after that approach to choose the company that is better for elaborating those studies?

A: Yew, of course we conduct some competition and the company with the best offer, gets the project.

Q: What were the thought you had for deciding that Aspern would be a new part of the city plan? Why Aspern and not another area?

A: I don't know much about Aspern but I suppose that this happened because there was a local airport, many decades ago, and the fields were cheap enough so it was easy to be bought by the city municipality and be developed, because it was owned by one owner, and it was also what you can do with this field of concrete. If you want to know more about Aspern I can give you a contact.

Q: I want to focus on the Aspern area because as far as I know it's a special case because of the airport. And also it is under development this time so I can see it happen.

A: That's right, it's true that is a special case and also you can visit the place.

Q: The next chapter of my thesis has to do with the building codes, the building regulation plans and the building permits. Do you have any information about them? For example is construction permitted during urbanization process?

A: In this meantime the city elaborates this land use plan that is a kind of stops all the permissions???????(48:08) …it's called "Bausperre"(=buildingplan) and probably it will be changed…

Q: Having a building permission is difficult?

A; It depends on the project. Actually it takes some time, about half a year.

Q: Do you know, probably, the procedures for getting the permission to build a house.

A: I will answer you from my own experience, because now in my flat I want to build a balcony and I will try to describe the procedures. The flat is an old one. First of all you need an architect plan, actually 3 times in 3 different scales 1/200 for sure but it depends of the project's size, furthermore you need signatures of all the owners of the house, maybe a lower but not necessarily, you need an expert of buildings, an architect maybe.

Q: All of those procedures took half a year?

A: Maybe it could be quicker but I had , two weeks ago, a service examination. And these procedures in the public administration should not take more than maximum 6 months. So if you have any demands, if you go to the municipality and ask for them, they should take a decision in a period time of 6 months.

Q: What are the policies that you adopt to be sure that nobody builds while the city planning is composited?

A: Actually the penalties for building in illegal way are so big that nobody dares to build if it is not permitted. I mean this is actually the main policy that Vienna's Municipality follows. And if you build illegally they can force you even to demolish the building you made.

Q: But if you pay more?

A: I don't know. Sometimes you can build and you wait and afterwards you can try to "legalize" it. But it is also a risk for companies.

Q: So, the penalty is so strict that people avoid building illegally? Do you know how much money do they have to pay?

A: I really don't know. You should probably ask the magistrate 37.

Q: Ok, next question is about land registry. Is the permission of the building registered in the land registry database and if so, when does that one happen?

A: They permissions are registered during and after the construction.

Q: Do you know hpw many buildings are made here in Vienna?

A: I have no idea. I think too many.

Q: I supposed that. I read that here in Austria and in Germany, there is a project about revitalization of villages. How that project works here in Vienna?

A: There is public money that is dedicated only for renovation of old buildings. So if you own an old building, you can ask the city's municipality. They cannot renovate the whole part but a big part.

Q: And what about the protection of National and Natural resources? Are those specified in land planning?

A: Of course. They are mentioned in every planning like zoning plan, land use plan etc. Tare too many protected areas where the façade of the buildings standing there are very old and they are protected. For example the whole 1st district area is a protected area. This is just mentioned

in land use plan with a red line , it's not possible to build there but the regulations are very strict there for a change also. For example, if you change windows, the building is changed. The districts are the 1st for sure, parts of the 3rd, (grinzing), the area behind the Volks Theater and many others.

Q: But what about the forest development plans? are there any forest development plans?

A: I don't know if it's called like this, but there are some plans for sure and you can collect some information in the municipality department 49, which is responsible for the forests and the parks.

Q: What happens in the abuttal's of Vienna and the closest federal state? Which municipality is responsible for the planning? For example what happens if there is a park between two federal states?

A: This is a difficult situation. Here in Vienna, there is an association, the association EAST, and is a cooperation and its plan is to coordinate planning processes between municipalities of Lower Austria and Vienna. For example if a municipality wants to build a shopping center, then this is coordinated between the city of Vienna and the other municipalities.

Q: The protected areas are protected by which level of authority? By municipality, by the Austrian Government or there are independent organizations for that?

A: Many of them are under the administration of public authorities (58.15) but I am not sure if there are only those.

Q: Do you know maybe the percentage of the Public and Private seizing?

A: I really don't know.

Q: Ok! Do you know when the first city planning elaborated in Vienna?

A: The first one was in late 18th century, but those were some regulation plans, but a detailed one was made in late 60's or early 70's of the last century. So it started already about 100 years ago, systematically in the 60's and 70's of 20th century. I am sorry now but I have another appointment and I have to leave, but I hope that I answered most of your Questions.