

THE IMPACT OF THE REFUGEE CRISIS ON URBAN DEVELOPMENT: THE CASE OF VIENNA

Denis Can TEOMAN

University of Michigan, A. Alfred Taubman College of Architecture and Urban Planning, Ann Arbor, MI, USA dteoman@umich.edu

Abstract

The recent refugee crisis in Europe has arguably been one of the most significant moral and political challenges in Europe since the end of the Second World War. The moral challenge was related to the emotions of the societies in the European countries, which were polarized, being divided into two groups, the "welcoming" people and the so-called "realists," whose claim were, that European countries cannot and should not take refugees. The discussion about refugees was instead discussed on a very emotional level than on a fact and consensus-based level. Austria has welcomed many refugees in the course of its history, mainly from its eastern neighbors and other eastern European countries. However, this stream of migrants has not lead to a welcoming policy of the Austrian government. While refugees are people who fled from their home due to political prosecution or wars with the intention of going back home once their home countries have been stabilized, migrants are people who plan to settle in a particular country without the intention of returning home. This paper will examine, how urban developments and the infrastructure in Vienna, in general, respond to incoming refugees and migrants.

Keywords: *Migration, Spatial patterns, Refugees, Social-spatial analysis*

1. INTRODUCTION

Cities cannot be seen as a static structure. In times of globalization and quickly changing movements and processes, urban areas have to continually adapt to new challenges and problems (Vysluzilovaa 2016: 36). At the central train station in Vienna, a Wireless network called: "free4refugees" was set up, helping the refugees in English and Arabic to communicate with their friends and relatives in Vienna and to help with urgent needs upon arrival. Also, the lounge at the Central station had added signs in Arabic for incoming refugees. These welcoming signs are surely very positive, but to what extent does urban development consider refugees and migrants? First of all, let us have a look at the spatial distribution of the refugees in Vienna that came in the fall of 2015, as shown in Figure 1 below.

2. DISTRIBUTION OF REFUGEES

In this figure (Figure 1), it becomes clear, that even though every district took refugees, the distribution cannot be called even. The absolute numbers of refugees in a district should be observed concerning the districts overall population.

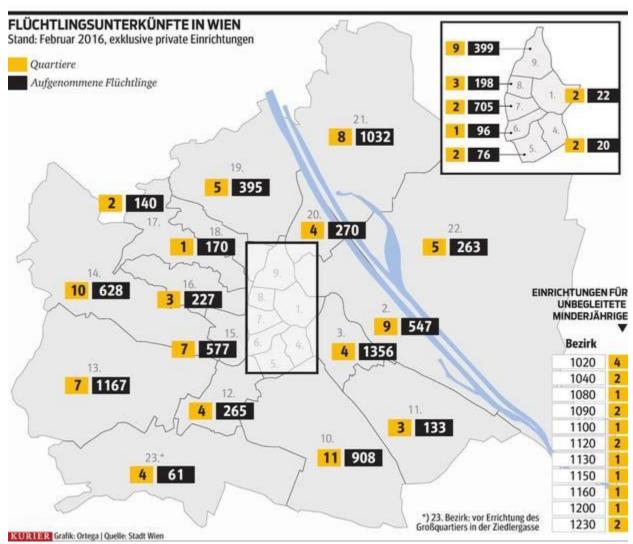


Figure 1: Spatial patterns of refugees accommodations in Fall 2015 *Source: Gebhard 2016*

The following bar chart (Figure 2) below shows the percentage of refugees in Vienna's 23 district (Gebhard 2016). The color of the bars represents the respective districts mayors' political party. The red color represents the Social Democrat Party, the black color the conservative Christian Democrats, the green color the left-wing green party and the blue color the far right wing freedom party. If we look at the three districts, which got the highest proportion of refugees at the end of 2015, we can see based on the data retrieved from the year 2015 that mayors of three different political parties govern all three districts, as the Social democratic party governs the 3rd district, the 7th district by the refugee welcoming liberal left green party and the 13th district by the conservative Christian Democrats. Therefore, it would be wrong to state, that only one political party is welcoming refugees. If we look at the three districts with the lowest proportion of refugees

taken, we can see similar patterns, as mayors of three different parties govern the three districts with the lowest acceptance rates concerning acceptance rates of refugees. The two major parties (the social democrats and the conservatives) are represented here as well. However, instead of the green party, the far right wing freedom party (FPÖ) is represented here, which is not surprising, considering the fact, that the Freedom party is in favor of very restrictive asylum policy.

Therefore, we can say that the two major parties are represented on both sides- on the welcoming and the restrictive side, while the districts governed by the green party and the freedom party reflect their parties' ideology and are only represented on the far left and far right end. Mayors of the socio-democratic party SPÖ govern the majority of Vienna's district, and in this graphic (Figure 2) we can see, that the districts governed by the SPÖ differ significantly in the numbers of refugees received. It is challenging to find a single reason for the factors leading to the numbers of refugees received in a district.

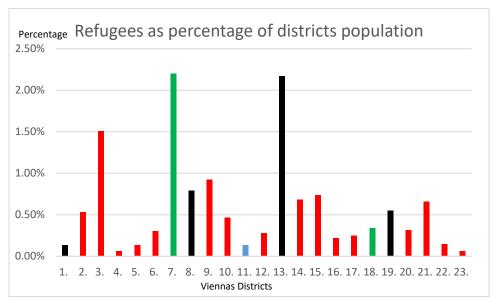


Figure 2: Refugees as percentage of districts population Source: Stadt Wien 2016, Gebhard 2016

Correlation analysis has shown, that lower population density leads to more refugee accommodation, which is not surprising because a low population density results in higher space and area availability. However, one district, which has a low population density and also a low number of refugees, is the 11th district, the only district governed by a mayor of the very far wing, anti-refugee freedom party (FPÖ). Here, it seems obvious, that the mayor protested against incoming refugees. Even though Heinz Fassmann, the vice rector of the University of Vienna and a migration expert in Austria, states, that urban planning projects in Vienna are "unbiased and does not differ between foreigners and locals" (Fassmann 2016), there seem to be politicians who have a lot of power on the local level to contradict this "unbiased" politics. Perhaps the most accurate prediction about the "willingness" of districts to welcome refugees is the ratio of inhabitants to refugees (Figure 3). We can observe, that the 13th district has the lowest ratio of inhabitants to refugees, having one refugee for every 45th inhabitant, while the ratio in the 23rd district is the highest, having one refugee for every 1585th inhabitant. In this statistics, we are

observing considerable differences in the districts, and most of the districts either have very high ratios or very low ratios, while only a few districts ratio clusters around the mean.

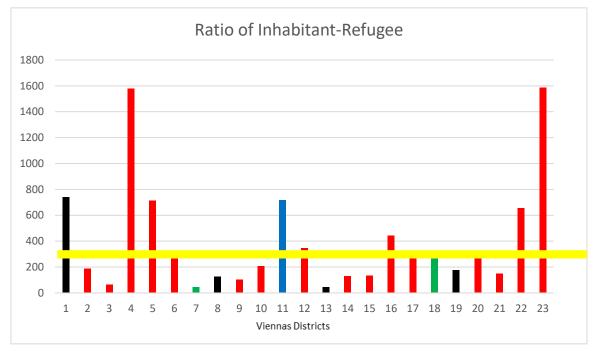


Figure 3: Ratio of Inhabitants-to Refugees Source: Stadt Wien 2016

The difference within Vienna's districts is a reflection of the politics in Austria to find specific common guidelines and standards. According to Thomas Trattner, the head of the department for essential services at the Fonds Soziales Wien, an organization helping with people with urgent basic needs such as housing, the accommodation of refugees is solely based on the factor availability of living space (Trattner 2016). This argument is hardly contradictable, although there has been one incident, which might suggest that the freedom party would try to prevent any admission of refugees into their district (11th district) (Hager 2016). The following figure (Figure 4) shows politicians of the freedom party holding signs in their hand, on which it states: "Say no to accommodation for asylum seekers". This sign itself already can be classified as purely racist. It was, even more, a scandal, because these politicians were holding these signs to refugees, who arrived in Vienna at that moment.



Figure 4: Politicians of the freedom party protesting against refugees Source :Hager 2016

Considering this, it is not surprising, that the 11th district, which is governed by a freedom party mayor, has taken so few refugees so far. Trattner adds that their primary duty is to create a system, which can handle any number of refugees arriving in Vienna independent of the respective mayor's attitude towards this issue, saying that humanity should be spread through the system and not be associated with certain political parties (Trattner 2016). One interesting fact about this system is the fact that it relied heavily on the goodwill of private households, who opened their doors for refugees in the last big waves of refugees in Fall 2015 (Trattner 2016). However, the system cannot rely on the goodwill of private household for future crisis.

3. SOCIO-SPATIAL ANALYSIS OF VIENNA

The refugee flows do not only have short-term implications; it undoubtedly poses considerable challenges in Vienna's urban development. From a theoretical perspective, it is an indeed a valid question to ask, how much priority should development projects give refugees or migrants? Should refugees be preferred, when it comes to housing and other basic social needs? Heinz Fassmann states that urban development projects are not considering the origin of people, but rather their social class and their needs. Since the majority of refugees are situated in lower social classes, it might appear as if the urban development projects are specifically geared towards them; however, he points out, that development project is geared towards social groups and not ethnic groups (Fassmann 2016). This approach is undoubtedly reasonable from a moral perspective, as people with needs should get help, regardless of their origin and ethnicity. From an urban sociology perspective, it might be useful to distinguish between refugees and locals, because a careful accommodation of refugees in the districts might prevent further segregation of districts. If refugees are accommodated somewhat evenly around districts, the districts might not become more

segregated, and the disparities between districts would not increase. Segregation is the projection of social phenomena to space (Häussermann 2001:70). There are different theoretical approaches to segregation. First of all, segregation is a complex phenomenon, and there can be racial, social, religious or gender segregation. Besides, there are a variety of theoretical approaches to segregation. The Marxist approach to segregation claims, that segregation is a reflection of social inequality (Bogus 2008:3). Vienna is an example for a city, which is only segregated in certain ways, which will be explained in the following. Figure 5 and 6 show a map of Vienna with the percentage of migrants, percentage of unemployment and the average income in its 23 districts on a map. Figure 5 is a display of the percentage of migrants in the 23 districts. I have classified the district into three groups. I have marked the districts with an average percentage of migrants within a range of +- 2.5 % from the mean (38.3 percent) with red. These districts can be seen as districts with a percentage of migrants similar to the city's overall mean. Yellow districts are district who have an average percentage of migrant 's less than two percent of the mean (districts with a percentage less of 36.3). Blue marked districts are districts with a percentage of migrants higher than 2 % of the mean (districts with a higher percentage than 40.3).

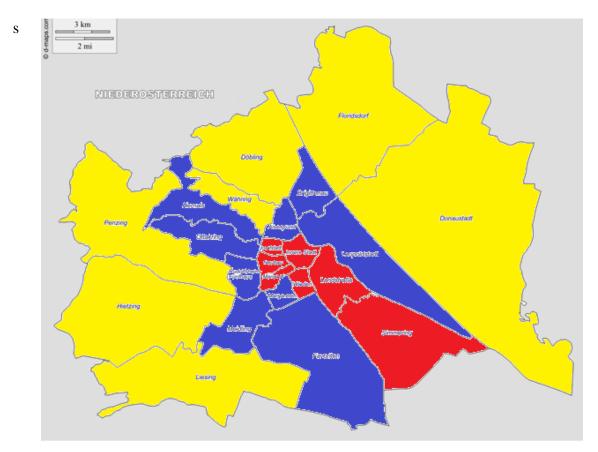


Figure 5: Spatial distribution of migrants in percentage Source: Stadt Wien 2016

Figure 5 above shows the reflection of the migrant statistics of Vienna on a map and its spatial distribution. It can be seen, that the inner districts, including the city's downtown (1st district), are dominated by the red color, while the extended city center is dominated by the blue color, which suggests a high percentage of migrants. The outer districts, which are mostly residential, have low percentages of migrants. This map does show clear spatial segregation of the three colors.

However, this graph only shows us the "dominant group" of the particular district rather than a relative relation of the groups within the districts. Therefore, this map gives a good overview about the geographical location and the spatial distribution of the districts social phenomena, however, to get a clear, detailed review of racial segregation in Vienna, I used the Dissimilarity Index, which is a popular tool for measuring segregation. For Vienna, the dissimilarity index concerning racial segregation is 0.37, which indicates rather low segregation. Even though the statistic determines the segregation in Vienna as rather low, it is interesting to note the geographical proximity of districts with similar percentages of migrants. Particularly interesting is the fact, that the red colored district, which has an average amount of migrants, are surrounded by blue districts and that the red districts are not located between yellow and blue districts, which means, that districts on the both sides of range border each other (in the 16th and 17th district). However, there is a concentration of each color without any "exclaves" of one color in another color. It is important to note; that migrants are not a homogenous group. Therefore, it is a challenge to compare districts; even though they might have a similar number of migrants, migrants might have a completely different social structure. The graphics (Figure 6) shows, that migrant's social structure are often similar to the overalls population's social structure. In this map, we see a less segregated spatial distribution of the colors. Here, the red color displays district which have an average income of +-2, 000Euros of the average income in Vienna, which is 21832 Euros net. The population in the blue districts have an average income of less than -2,000 Euros (19832 Euros) of the average income, whereas the population in the yellow districts have an average income of more than 2000 above the average income (23832). This map (Figure 6) below displays a higher mixture of colors and a higher dominance of the red color, which indicates lower segregation because the red districts possess values closer to the mean. To statistically quantify income inequality (or income segregation), I calculated the Gini Index (Inequality Index) for the 23 districts of Vienna. The inequality index is 0,08, which means that the inequality among the income of Viennese is 8%. Cities as London or Los Angeles possess a Gini Index of 40-50 % (Euromonitor 2016).

It is interesting to observe that racial segregation in Vienna is higher than income inequality. This means that migrants with high income still often tend to live in districts with lower income migrants. The overall notion in the literature suggests that migrants in Vienna tend to rent flats which are not attractive for "locals" anymore and which are cheap (Kaufmann 1999:86). If we compare the two graphics, we can see that a high percentage of migration does not always go hand in hand with a low income. The 9th district has an above average percentage of migrants, but its average income is about the cities average income.

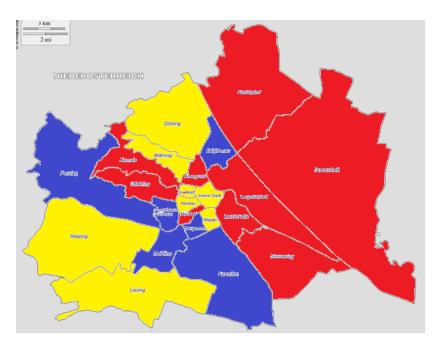


Figure 6: Spatial patterns of average income in Vienna *Source: Stadt Wien 2016*

These analyses are a necessary foundation for the suitability urban development projects in Vienna because they inform us about the current spatial distribution of social phenomena in Vienna. Urban development projects are in many ways social projects because they target social groups and their characteristics reflect the "targets" social structure. Therefore, social phenomena need to be analyzed to understand urban development projects fully.

4. URBAN DEVELOPMENT AND ITS IMPORTANCE FOR MIGRANTS AND REFUGEES

Currently, there are 37 development projects in Vienna (Stadt Wien 2016). These projects are so-called: Einzelprojekte (Single projects), which means that they are projects not embedded in a long-term plan. These projects are more interesting for these paper because it gives the chance to analyze them concerning the refugee crisis, which is a contemporary issue.

These development projects are not evenly spread around the city, as there are districts with, e.g., nine developments (21st district), and many districts without any development projects. In this context, the difference between migrants and refugees is crucial and significant for the understanding of this complex issues. Migrants leave their country deliberately to pursue a better life, whereas refugees are forced to leave their countries because of prosecution and political crisis in their respective home countries. However, refugees also seek a better life, which is perfectly understandable. These definitions are essential not only to understand the reason for the departure of their home country but rather for their needs and wishes in Vienna. Controversial political opinions mark this discussion. On the one hand, politics does not want the refugees to be a burden on the social welfare system, but on the other hand, it often takes more than five years for the refugees to get a working permit.

A crucial part of urban developments about migrants and refugees is parks. Parks are vital urban spaces for migrants, especially for young migrants, because they perceive parks as a spot of social

gathering and cultural exchange. Moreover, larger communities lead to traditional events in Vienna, which usually only took place in their "home" (Mayer 2011:177). The parks can be seen as an own system with a personal own dynamic. However, parks in Vienna are often seen as the place of constant problems. There are numerous newspaper articles about crimes in parks, where it is often deliberately mentioned, that the perpetrators are migrants or refugees. One example of this is an attack by Afghan refugees on Chechen refugees/migrants on the 5th of March. This news leads to a constant negative image of parks in Vienna because locals often think they might be full of criminal foreigners. An interesting article on City Lab talks about how immigrants shaped the development of parks. The article explains how parks were spaces for the elites of New York to regain their social status after stream of immigrants have arrived in the cities (Citylab 2016). Further, Parks was seen as a cure for healing problems, which arose due to new waves of immigrants in the mid-1800s. (Citylab 2016). The construction of Central Park can be seen as a social experiment, in which different classes of people were brought together and shared common spaces. (Citylab 2016). However: "The idea that parks are for all, born with the creation of Central Park, is still waiting to be realized in a meaningful way." (Citylab 2016). If we transform these ideas into the current situation in Vienna, we can observe some similarities to the discussions of parks in the 19th century in New York. Citizens in Vienna often feel scared in parks, and they possess a feeling of not belonging to the parks. So-called "elites" might not feel comfortable anymore in parks. Parks are rarely seen as a potential melting pot and as an opportunity to exchange ideas between people of different social classes or origin. An establishment of a weekly or monthly cultural exchange in Vienna's Parks would surely be a good opportunity for the locals to meet the newly arrived refugees or migrants, and it would also reduce the people's fears and anxieties towards the newly arrived migrants/refugees.

On the other hand, it would give migrants/refugees the chance to meet people from their host country. In reality, as the article on Citylab states, police regularly patrol the park and therefore "protect" the elites, rather than having space without government's interference (Citylab 2016). In Vienna, parks often have a dynamic similar to a 2 class society, which uses the park "parallel," not "collectively." One example of this kind of park is the so-called: "Venediger Au." Colloquially, this park is called "Afghan Park" (which means the park of the afghans), because the park has a reputation for being heavily frequented by Afghan refugees. A recent documentary by Austrian Television has reported extensively about the youth in the parks, and they have interviewed them about their life stories.

Another part of the urban infrastructure is public transportation. Public transportation should be a mode which is socially inclusive (Marmolejo 2010: 6). VOR, which is the transport association for Vienna and Niederösterreich (which is the state surrounding Vienna), had offered a 50 % reduced monthly tickets for refugees, but they had to stop this discount due to financial constraints (Der Standard 2016). Recently Wiener Linien, which is the public transport authority of Vienna, are discussing to introduce a reduced fare, which would be around 10 % of the monthly allowance for refugees, which is around 40 Euros. These measures might upset the locals of Vienna, stating that people in similar financial and social conditions only get discounts with great difficulties, or do not get discounts at all. However, one might argue that locals have a higher budget than 40 Euros per month available. In the American literature about equity in public transportation, the dominating notion is that the construction of freeways and the constant preference for highways led to the exclusion of minorities and low-income people. (Garret&Taylor 1999:8). In the Austrian context, the problem does not lie in the dominance of freeways in the inner city. Vienna practically does not have any freeways in the inner city. The problem in Vienna

is more of a sociological nature. Factually, Vienna has a pervasive public transportation network. An article in the Austrian online news "Vienna.at" from 2013 suggest that migrants are more "likely" to get checked in the ticket inspection, due to their appearance and the mentality of the inspectors, who assume that non- Austrians are more likely to "betray" the system and go on a ride without a ticket (Vienna.at 2013). This does display not only racism, but also a form of social exclusion. This sort of social exclusion is based on racism. Considering these factors, it is not only important to provide refugees with free or reduced tickets for public transportation to increase their mobility, but also to prevent the social exclusion of the refugees in public areas. Providing refugees with tickets will give them the feeling of belonging to this society. Refugees should have to pay the public transport ticket according to their budget. A socio-economic approach is much more justifiable than a racial or ethnic approach because if higher income refugees ride public transportation for free, there would be a big resistance by the lower income Austrians.

A big challenge for the refugees and the local population are the cultural differences. Most of the refugees coming to Vienna are from Muslim majority countries, and their upbringing can significantly differ from the culture in Vienna. These problems are addressed very often in public, but they are mostly not discussed in a value-neutral way, but rather in an emotional and derogative manner with racism involved. In addition, the current discussion about the state of the religion of Islam does not help reducing prejudices towards refugees, because the refugees are always seen as a whole and as a homogenous group, which is of course very misleading and wrong, because not only do these refugees come from different countries, but even refugees from same countries differ substantially. What is lacking in the discussion in Austria are the changes in the Austrian society that are taking place due to refugees and migration. It is always stated, how crucial it is, that refugees and migrants adapt and get used to Austrian culture.

However, it is forgotten, that Austrian culture is not static and continuously changes and reflects the long history of migration. Migration not only changes the migrants, but it also changes the host societies and challenges their self-reflection of cultural identity (Taran 2009:23). Cultural identities have also become less connected to territories, mainly due to migration and globalization processes (Kicosev et al. 2012: 59). This does not lead automatically to deterritorialization, but rather a form of reterritorialization (Kicosev et al. 2012: 59). One example for this phenomena would be the "Brunnenmarkt," an area in the 16th district of Vienna, where the market stands and restaurant are influenced by mainly Turkish culture. Therefore it is often called "Little Istanbul" (Suitner 2015: 188). Terms such as "Chinatown" or "Little Italy" are displaying these processes of reterritorializations of cultural identity. These areas, for example, Brunnenmarkt, are not only reflecting migrant's cultural identity, but they also are frequented by non-migrants. Non-migrants, who enjoy eating exotic fruits and Turkish specialties, are often visiting Brunnenmarkt and other similar areas. Often, these areas get subjected to criticism because they do not lead to the integration of migrants to the host society and they do not get enough "adapted" to Austrian culture. However, at the same time, non-migrants enjoy and use these places. In Vienna, it is generally forbidden to have stores open on Sunday. The only stores open in Vienna are supermarkets in train stations/airport, or at the Turkish and Arabic stores, which also run as restaurants and therefore have the licenses to be open on Sundays. This is only one example of how migrants have shaped daily life's change in Vienna. Perhaps without migrants, Viennese citizens would have to drive long ways to get bread or milk on Sundays. This change in the host countries also makes it challenging to define integration. Integration and assimilation theories often see it as a one-way process where migrants have to integrate and the host country's society is in a static state without any dynamic (Dahlvik & Fassmann 2011: 15). However, host countries continuously change due

to globalization and migration processes. In the current debate about the arriving refugees, the integration debate has again climbed up the agenda. The debate does not only revolve around the question of how to integrate refugees into Austrian society but also if to integrate the refugees. Per definition, refugees are fleeing their home country due to political prosecution, instability or war, with the intention to go back to their home countries once the countries stability is secured. Therefore, many suggest, that refugees should not be helped integrate because a successful integration would prevent the refugees' intention to return to their home country. This argument is very bizarre, because it leads to more costs for the government, as integration would lead to working refugees and potential taxpayer money. Non-working refugees would cost the Austrian government more, and refugees would be desperate. These kinds of ideas result instead from emotions than from rationality. Currently, there is a debate in Austria, triggered by the Austrian Foreign Minister Sebastian Kurz, to obligate refugees to work for 1 euro per hour in community jobs. This proposal has led to approval and criticism. From a sociological perspective, it is questionable, how useful it can be to force people to work. This would also not reduce, but rather stereotypes, that refugees represent cheap labor.

5. CONCLUSION

Concluding, it can be stated, that the impact of the refugee crisis can be seen in different types of urban development. The goal of the city of Vienna has to be, to integrate the refugees in all the different types of urban development. Migrants, who already live in Vienna, can serve as a "bridge" between refugees in Vienna, as Migrants might understand both sides. In this refugee crisis, there is still a lot of prejudice and uncertainty on both sides. Cultural and social exchange can stop the prejudice and ensure a peaceful integration of the refugees. Vienna as a city will face enormous challenges, as the city is expected to grow a lot over the next few years. There will have to be strategies to cope with the population growth on the one hand and the incoming migration streams on the other hand. Social housing policies should approach this issue from sociological rather than ethnic or racial perspective. It should be sociological because low-income people should receive help regardless of their ethnic background. However, segregation should be avoided, and social housing policies do have the power to prevent segregation and to provide social housing to people regardless of their ethnic background. A first big step was done by abolishing the rule that only Austrian Citizens can apply for social housing in Vienna.

REFERENCES

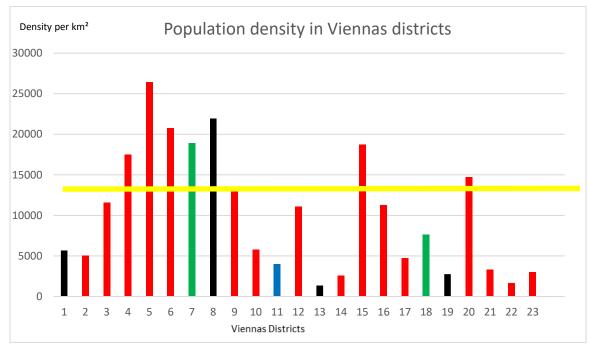
- Bogus, L. M. M. 2008. *Urban Segregation: A Theoretical Approach*, Conference Paper, 13th Biennal Conference da IPHS, Chicago. [Online]. Available at: http://www.observatoriodasmetropoles.ufrj.br/urban_segregation.pdf. Last retrieved: 22.06.2018
- Citylab 2016. "How 19th Century Immigrants Changed NYC's Parks." CityLab. [Online]. Available at: http://www.citylab.com/design/2016/07/how-19th-century-immigration-madenew-york-city-rethink-its-parks/490106/. Last retrieved on 25.05.2018
- Euromonitor International Blog. 2016. [Online]. Available at: http://blog.euromonitor.com/2013/03/the-worlds-largest-cities-are-the-most-unequal.html. Last retrieved on 25.05.2018
- Fassmann, Heinz, Julia Dalvik, Richard Potz, and Hildegard Weiss. (2011). Migrations- und Integrationsforschung multidisziplinäre Perspektiven Ein Reader. Göttingen, Niedersachsen: V&R unipress.
- Garrett, M.; Taylor, B. (1999). Reconsidering Social Equity in Public. Transit. *Berkeley Planning Journal* 13: 6-30
- Gebhard, Josef. *Wo in Wien die Flüchtlinge leben*. Kurier.at. [Online]. Available at: http://kurier.at/chronik/wien/wo-in-wien-die-fluechtlinge-leben/190.134.620. Last retrieved on 25.05.2018
- Hager, Johanna. "FPÖ-Demo gegen Flüchtlinge: Die wahre Geschichte eines Bildes." FPÖ-Demo gegen Flüchtlinge. [Online]. Available at: http://kurier.at/politik/inland/fpoe-demo-gegen-fluechtlinge-die-wahre-geschichte-eines-bildes/135.021.167. Last retrieved on 25.05.2018
- Kicošev, S.Ristic, D, Nagy, I., 2012. 'Cultural Identity as a Specific Dimension of the Socio Cultural Dynamics: Refugees in Temerin' in Journal of Identity and Migration Studies, Volume 6, number 2, pp 55-70
- Marmolejo, D.D., 2010. Guidelines to Mainstream Social Inclusion in Public Transportation Evaluations. Masters' Thesis. University College London.
- Mayer, Danila. Park youth in Vienna a contribution to urban anthropology. Wien: Lit, 2011.
- Suitner, Johannes. Imagineering cultural Vienna: on the semiotic regulation of Vienna's culture-led urban transformation. Bielefeld: Transcript, 2015.
- "Stadt Wien." Planungen und Projekte Stadtentwicklung. [Online]. Available at: 2016. https://www.wien.gv.at/stadtentwicklung/projekte/. Last retrieved on 22.06.2018
- Stadt Wien 2016. Daten und Fakten Wiener Bevölkerung nach Migrationshintergrund. [Online]. Available at: Accessed December 20, 2016..gv.at/menschen/integration/grundlagen/daten.html. Last retrieved on 22.06.2018
- Taran, Patrick. Economic migration, social cohesion and development: towards an integrated approach. Strasbourg: Council of Europe Publ., 2009.
- Vysluzilova, Ivana. Cultural Changes and impact of globalization in European urban agglomerations. European Journal of Geography Volume 7, 1:36 44
- Vienna.at "Rassismus: Gezielte Kontrollen im Verkehr diskriminieren Migranten." Vienna.at. [Online]. Available at: http://www.vienna.at/rassismus-gezielte-kontrollen-im-verkehr-diskriminieren-migranten/3787676. Last retrieved on 22.06.2018

Interviewees

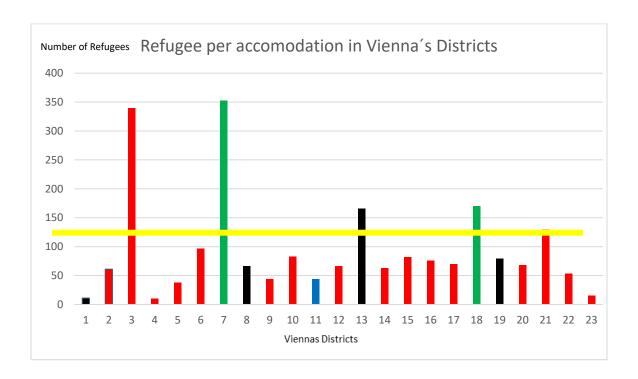
Dr.Heinz Fassmann, Vice-Rector University of Vienna,07/04/2016 Thomas Trattner, Fonds Soziales Wien, 08/03/2016

Appendix

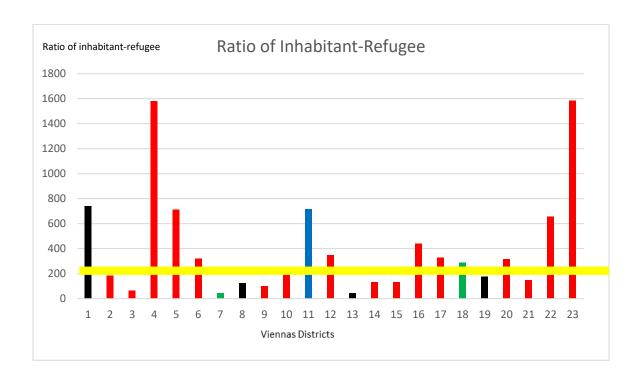
1.



2.



3.



4.

