

# The Pedestrian Traffic of the Inner Courtyards in Graz

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## 1 ABSTRACT

The UN World Urbanization Prospects: The 2018 Revision report has explained that 54% of the world's population lived in cities. And based on the forecasts by 2050 this rate will be 66%. All this is due to that in the metropolitan regions high level economic activity is taking place and their services getting better quality. Besides of that the cities are not only information and service nodes but also varied cultural and educational centers which providing a lot of opportunities for occupational change or to learn new professions which could be attractive to the high qualified people too. Therefore the cities of the future will have to face significant demographic and sociological problems because besides moving into the city various ethnic and religious groups according to the characteristic of the western countries the urban population shows an aging trend. And in addition the increasing number of the disabled people whose mobility even in a crowded city must be ensured. Therefore the public spaces will play an even more significant role in the cities life because this is the "space" in every city where regardless of gender, age, religion, qualification, etc. all social classes can be found. This is especially true for the public squares and parks where people can not only meet with each other from the different social groups but they can dialogue with each other as well; actively or passively relaxing, having fun, etc. All of this can significantly contribute so that these groups could get know each other. However the public spaces of the cities including the squares and parks looking at their size are bounded. So for the expansion of the public spaces alternative routes could serve as opportunity. One of these are the inner courtyards, which are similar to the squares and could have restaurants, terraces, benches, etc. In a framework of a scholarship in April 2019 I had the opportunity to study the pedestrian traffic of the inner courtyards of Graz in Austria. The study had proved that the inner courtyards could be used as a public open space but their traffic is not only influenced by the there located stores, restaurants, offices, functions etc. Therefore in my presentation with the example of four in Graz located inner courtyards would like to show how can become an inner courtyard well used and successful in cities.

Keywords: Process-Driven Software Collaboration, Data-Driven Decision Making, Nature-Based Solutions, Blue-Green Infrastructure, Climate Adaptation

## 2 INTRODUCTION

As many researches have been proved an increasing percentage of the world's population lives in cities. According to the UN World Urbanization Prospects: The 2018 Revision report by 2050 this rate will be 66%. All this is mainly due to that the cities, especially the big city regions got a high level economic activities and services. And these city regions got a significant attractiveness both for the local and foreign residents and as well as those with the low and high qualifications. Because these cities are not just service and information nodes but diverse educational and cultural centres also, which providing many opportunities not just for new professions, but also for changing professions. (Enyedi 2011)

Therefore the cities of the future will have to face serious sociological and demographic problems mainly due to the increased population. So the role of public spaces and green spaces will be much more significant as today, because those are that "spaces" in every cities where regardless of gender, age, religion, education, etc. every society can be found. And on these places can the different social classes meet each other, dialogue, actively or passively relax, have fun, etc. All of this can significantly contribute that these different social classes and groups could get know each other. (Thompson, 2002)

However the extensions of the public spaces because of their bounded nature – especially in the case of the historical city centres – are not easy. Alternative routes such as alleys and inner courtyards can provide a solution. This last one is particularly suited to function as a public space to solve the crowding of the cities. Because the inner courtyards similar to the public spaces can have benches, terrace, stores, restaurants, playground, or even fountain also. During my previous research I have proved that some of the inner courtyards in the city of Győr in Hungary are suitable to function as public spaces. In the last year thanks to

the Austrian-Hungarian Action Foundation and the OeAD I spent one month in the city of Graz in Vienna where I could study the traffic of four inner courtyards. In my paper I represent the results of that research.

### 3 THE CITY ARCHITECTURE OF THE OLD TOWN OF GRAZ

The city of Graz is located in the southwestern part of the Graz Basin approximately 150 km from Vienna. It is the seat of the federal state of Styria and has a population of 330,000 according to the latest statistics. The city is defined by the historical city centre and the former Castle the “Schloßberg” and the river Mur. It is bordered by hills from both east and west direction and is divided by the Mur. Each historical periods have left a significant mark on the city, so it has many architectural monuments. It is not coincidence that the old town of Graz is a UNESCO world heritage site since 1999. Due to the middle age three big churches, from the renaissance age a significant amount of inner courtyards, and from the baroque to the buildings specific facades were left behind. From urban architecture aspect it can be dividing into five annular zone which from the first one is the city core. The historical downtown and the Schloßberg dividing former castle wall’s traces are still discoverable today on the map of Graz due to the next to it running boulevard. The dense construction of the old town is loosened only by the city park running from north to east. (Schweigert, 1979)

The triangle shaped main square of the city the “Hauptplatz” has begun to build in 1160 in the time of Ottokar III. the Margrave of Styria the major roads of the city core running into it like the Herrengasse, Sporgasse, the Murgasse, and the Sackstraße. In the 13th Century the city core was mostly consisted of medieval houses which was typical that they were located on long narrow plots and had one or two inner courtyards. These inner courtyards can still be found today and most of them operating stores, offices, and restaurants. From urban architecture aspect significant change happened in 1856 when the Ringstrasse was built along the former castle wall and as a continuation of it between 1869 and 1872 in southwestern direction the city park (Stadtpark). On the southern area of the old town in 1890 a significant residential quarter was built in historical style. In the end of the 19th Century and the beginning of the 20th Century were built on that area such significant institutions as the City Hall, the government offices and the buildings of the savings banks. The settling and the construction of the Mur’s riverbank also happened on that time. (Schweigert, 1979)

The city centre of Graz as it can be seen is full of inner courtyards which from in 2019 I could study three inner courtyard’s traffic in detail. In the next chapter I will represent the results of that study.



Fig 1.: The studied inner courtyards in the old town of Graz: 1.) Porkopigasse 2; 2.) Herrengasse 16; 3.) Bürgergasse 5.

#### 4 THE STUDIED INNER COURTYARDS IN GRAZ

Three pedestrian traffic in Graz's inner courtyards has been explored with a separate study of the numbers of children and adults. The first inner courtyard is located eastern direction from the Hauptplatz between the Hauptplatz 16-17. and the Prokopigasse 2. building. The second inner courtyard can be found under the Herrengasse 16. building which beside to the local legislation "Grazer Ladhaus" gives place for the tourist information centre, a restaurant, and a museum. The third inner courtyard is located approximately 250 meters from the second, under Bürgergasse 5. which another exit opens from the Burgasse 4. building. The special feature of this courtyard is that it connects a modern and a Baroque building (Fig 1.). And in this inner courtyard can be found the Graz artist group centre and a training centre.

The study took place between the 8th and 12th of April 2019 which during were counted to the courtyard walking through people.

#### 5 THE PEDESTRIAN TRAFFIC OF THE STUDIED INNER COURTYARDS

The pedestrian traffic of the first inner courtyard was counted from the direction of the Prokopigasse

2. building. The special feature of this that from it eastern direction can be found the Färberplatz which is one of the major squares of the city centre in Graz. On that square many shops, coffee shop, ice cream shop and restaurant and a musical elementary and high school also can be found. Therefore the pedestrian traffic of that square is significant. As already has been mentioned in the Prokopigasse 2. building can be found inner courtyard leads to the main square of the city center the Hauptplatz. The pedestrian traffic of that square outside of the peak hours is also really high, which among other things also due to that almost every tram line of the city has a stop here. And here leads one of the busiest pedestrian street the Herrengasse and on the square can be found the City Hall and many shops, stores, restaurants, coffee shops, etc.



Fig. 2.: The bicycle storage in the Prokopigasse 2. building can be found inner courtyard

As the Fig 3. also shows in the Prokopigasse 2. building can be found inner courtyard on April 12 between 11:30 and 12:30 the pedestrians were counted in 15 minutes period. As it can be seen the most people has walk through on the inner courtyard between 11:30 and 11:45 which from 19 person were children and 7 person adult. And the less people between 12:05 and 12:30 when only 6 adult walked in the courtyard. The extremely high number of the children (19 person) between 11:30 and 11:45 was due to the school ringing during this time, which led most people to approach the Hauptplatz and the there can be found tram stop through the courtyard. During the studied one hour a total of 37 adult and 29 children walked through the courtyard.

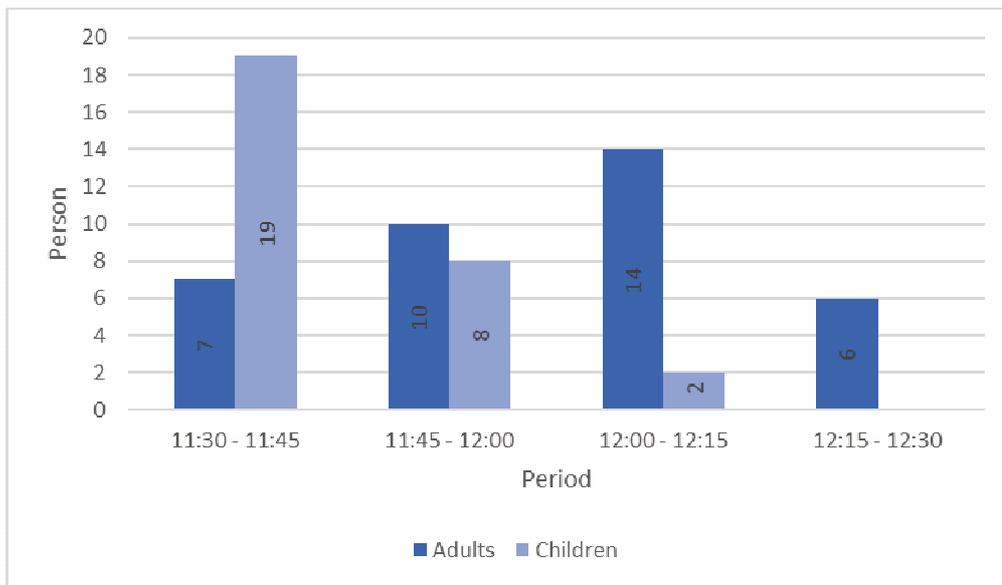


Fig. 3.: The pedestrian traffic of the inner courtyard in the Prokopigasse 2. building on April 12th

A few days earlier on the 8th of April the pedestrians in the courtyard were counted between 15:15 and 16:15. The result of this (Fig. 4.) turned out that the number of the adult were much more consistent as the children and a little lower also. The most of the children has walked trough on the courtyard between 15:45 and 16:15 hour which was primaly due to the end of school teaching. During the study in the inner courtyard it becomes clear that it is used primarily by adults and children so that they can faster reach the Haputplatz. The least adults (5 person) and children (7 person) used the courtyard between 15:30 and 15:45.

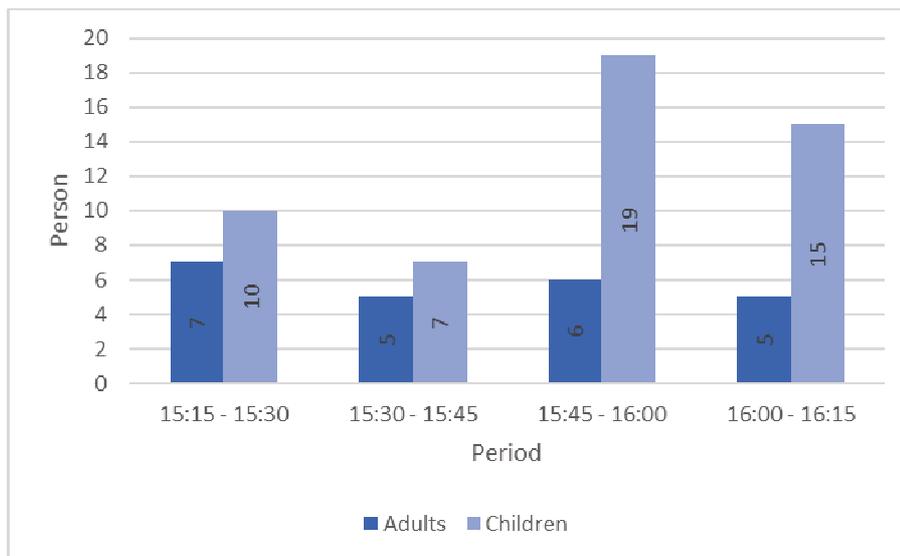


Fig. 4.: The pedestrian traffic of the inner courtyard in the Prokopigasse 2. building on April 8th

The second inner courtyad can be found under the Bürgergasse 5. building and as previously has been mentioned it was created by connecting a modern and a baroque building. And in the courtyard not olny the Graz artist group center can be found but also a multi-apartment condominium, an art gallery, a few smaller offices, and a training center. Due to that the inner courtyard got a significant traffic attractiveness. The two traffic counting in the inner courtyard had proved all this which was happened between the 8th and 9th of April.



Fig 5.: The inner courtyard in the Bürgergasse 5. building

From the results of the April 9. traffic counting turned out clearly that in the studied one hour (13:30-14:30) pedestrians were constantly walking on it (Fig. 6.). But what needs to be highlighted that in the studied period only 2 children has walked through on the inner courtyard and in average 20 adults. The most adults between 13:45 and 14:00 hour (24 person) and the less between 14:15 and 14:30 has walked on the inner courtyard. According to the site study the low number of children was primarily due to the fact that they were still in school at this time.

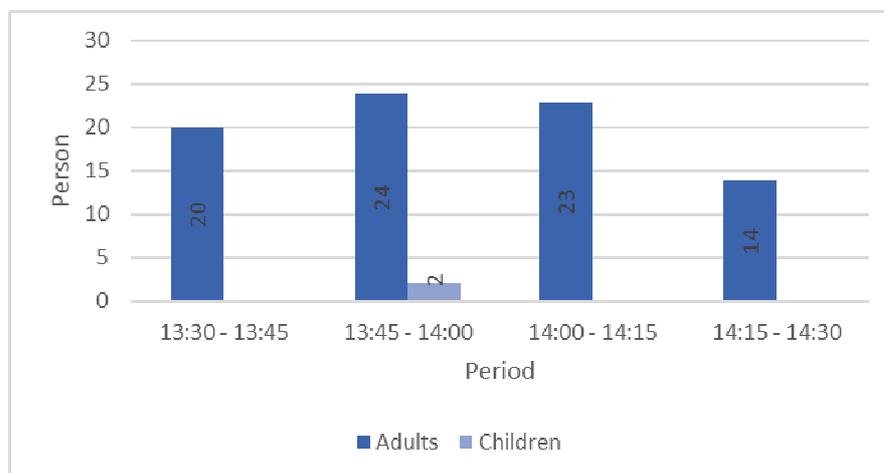


Fig. 6.: The pedestrian traffic of the inner courtyard in the Bürgergasse 5. building on April 9th

The study on 8th of April happened between 16:15 and 17:15 namely in the afternoon peak hour. However less people has walked in the courtyard as in the early afternoon period (Fig. 7.). The number of the pedestrians was almost the same besides the time period between 17:00 and 17:15. In average 17 adults and 2 children has walked through in the courtyard on the studied period. From this the most adults between 16:30 and 16:45 (19 person) and the less between 17:00 and 17:15 (13 person). The number of the children was the highest (4 person) between 16:45 and 17:00 and besides of 16:15 and 16:30 only one child has walked through in the inner courtyard.

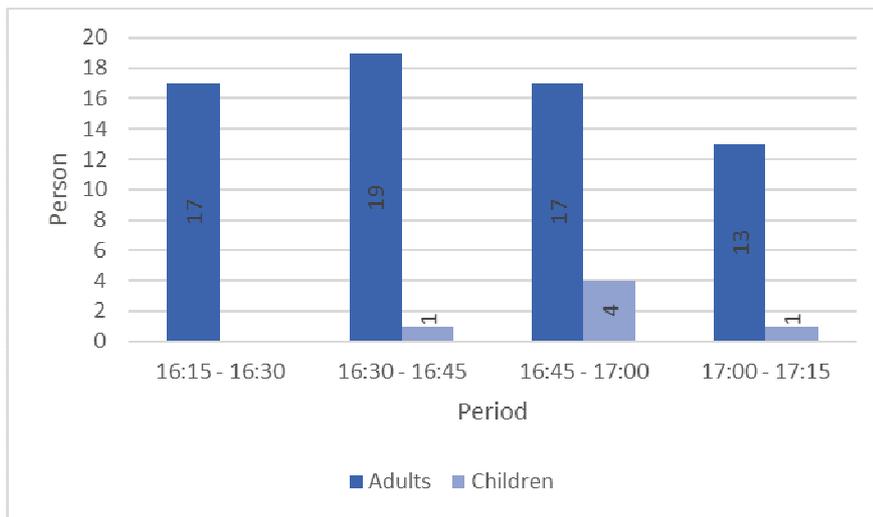


Fig. 7.: The pedestrian traffic of the inner courtyard in the Bürgergasse 5. building on April 8th

Under the Herrengasse 16. can be found building complex is located in the heart of Graz's city centre which is approximately 100 meter from the Hauptplatz. The here can be found inner courtyard's eastern entrance overlooks to the Herrengasse which is the busiest pedestrian street in the city. Besides as in the previous chapter has been mentioned in this courtyard can be found the mansion, a museum, two restaurants, and many shops on the ground floor of the building complex facing to the street. The building was built between 1642 and 1644 which is one of the most beautiful Renaissance building of the city and due to among others very popular among the tourists. All of this have significant define the pedestrian traffic of the inner courtyard where only on the 9th of April were made traffic counting but unlike to the other courtyards here in two time periodes between 10:45 and 11:45 and between 12:30 and 13:30.



Fig. 8.: The inner courtyard in the Herrengasse 16. building

From the results it turns out clearly that the building under the Herrengasse 16. got a really high pedestrian traffic (Fig. 9) because looking at the two studied time period in average 42 adults and 10 children walks on it during 15 minutes. In the first studied period (between 10:45 and 11:45) the number of the adults were slightly less as on the second (between 12:30 and 13:30). Looking at the numbers of the children the outstanding value between 10:45 and 11:00 (33 person) and 11:15 and 11:30 (24 person) was due to a school

group. Besides that mostly only one child walked through the courtyard from which in the forenoon only between 11:00 and 11:15 6 person and in the afternoon 5 person between 13:15 and 13:30 meant the exception. The most adults between 12:30 and 12:45 and 12:45 and 13:00 have walked through in the courtyard due to a tourist group. Besides of that except one time period (between 13:00 and 13:15) the numbers of the adults were over 30 person in the whole time.

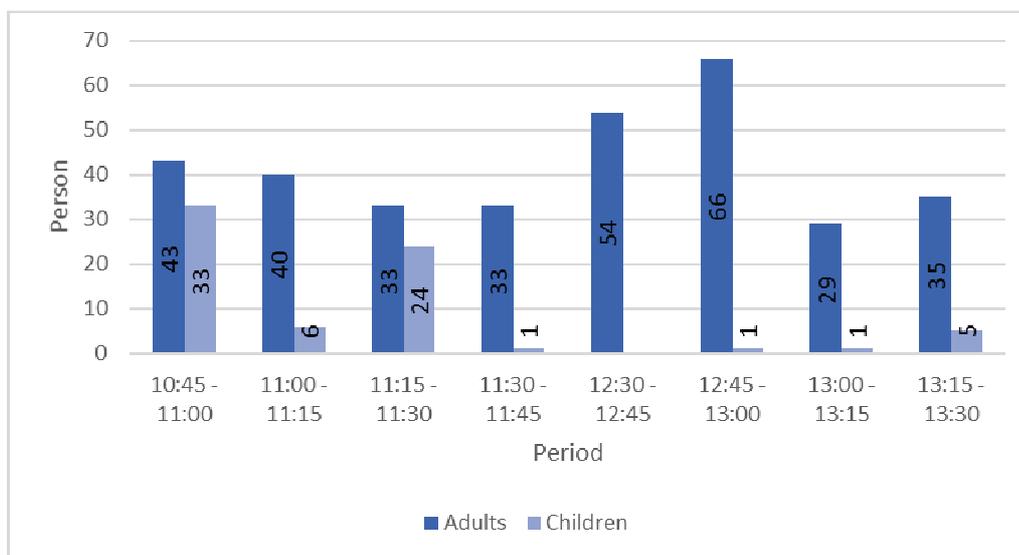


Fig. 9.: The pedestrian traffic of the inner courtyard in the Herrengasse 16. building on April 9th

## 6 CONCLUSION

The research in Graz has been proved that the traffic of the inner courtyards significantly determined by they location in the city and that the given courtyard what kind of shops, stores, street furnitures has. All of this has confirmed the results of my study in Győr Hungary where I have studied also three different inner courtyards (Jóna, 2018). But the biggest difference my study between Austria and Hungary that in Győr I could study such an inner courtyard which was in the heart of the city centre but doesn't got significant traffic. The reason of this was primarily due to that the courtyard doesn't get connection between two busy pedestrian street because each entrance was open to the same street. In the case of Graz in the Prokopigasse 2. building can be found inner courtyard got the lowest pedestrian traffic. This is due to several factors such as that inner courtyard doesn't have stores, or offices, just a larger bicycle storage. And the apartments in the building are accessible from the courtyard. Therefore the features that generate pedestrian traffic were missing, even though they were located between two significant pedestrian traffic have public spaces. It is not accidental that the courtyard was primarily used by children studying at the nearby school for the reason to get to the nearby Hauptplatz as soon as possible. Therefore in the Prokopigasse 2. building can be found inner courtyard's primary function is route shortening.

In the Bürgergasse 5. can be found building pedestrian traffic primarily was determined by the there living people because according to the study in the courtyard most of them were residents of the apartments. Besides of that many people visited the local gallery and training center.

As it was seen earlier under the Herrengasse 16. can be found building complex inner courtyard had the highest pedestrian traffic. The high traffic of this courtyard is prime due to that it is located in the heart of city centre, with many shops, stores, offices, coffee shops, restaurants, etc. which all have a significant impact on traffic. Besides of that the building complex which gives home to the inner courtyard is a monument is among the tourists very popular and in the courtyard can be found restaurants and a museum also has many visitors. These are the characteristics of the success of the Herrengasse 16 building's inner courtyard.

However, the disadvantage of each inner courtyard is that they do not have significant green space. The slight exception to this the inner courtyard under the Bürgergasse 5. can be found building where a "rest area" were created with smaller trees and bushes. And in the Prokopigasse 2. building can be found inner courtyard has a tree and some running plants on one of the walls. However, the size of each courtyard would allow the creation of greater green space. All of this would play significant role improving the urban climate,

because the effects of climate change are being felt all over the world. The increasing of the green spaces in the case of Graz could also help to remain in the future liveable and sustainable city.

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