

GÁBOR ANDROVICZ: Service placement and housing conditions of the Budapest police staff from the 1880s to the 1930s

SZABOLCS MÁTYÁS – ZSOLT LIPPAI – ÁGOTA NÉMETH – PÉTER FELFÖLDI – IVETT NAGY – ERIKA GÁL: Criminal geographical analysis of cycling accidents in Budapest

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Abstracts of the 1st Criminal Geography Conference of the Hungarian Association of Police Science

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LECTORI SALUTEM!

Dear Readers,

I am very pleased to publish the fourth issue of the Criminal Geographical Journal. The first few years in the life of any journal are critical, as the editorial board often faces the challenge of getting enough articles in this period. Apart from the number of publications the quality of articles is also essential. I think the editorial board has "passed the exam" so far, since we managed to fill the journal with studies of high quality. Our aim in 2021 is to make the magazine more colourful by publishing more studies and articles from as many countries as possible. We hope that as the number of readers increases, more researchers will place confidence in this journal and submit their studies.

In the autumn, an international online criminal geography conference is going to be organized by the Hungarian Association of Police Science. The editorial board of the Criminal Geographical Journal is also involved in the organization. I would like to invite everyone who is interested in criminal geography and would like to share their thoughts in the conference. Speakers can publish the material of their presentations in the journal. I am sure these presentations are going to fill CGJ with even more interesting articles.

I wish you good health and COVID-free life again!

Szabolcs Mátyás

Chair of the editorial board

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**SERVICE PLACEMENT AND HOUSING CONDITIONS OF THE
BUDAPEST POLICE STAFF FROM THE 1880S TO THE 1930S****Abstract**

Roland Perényi's book dealing with the social history of crime in Budapest, published in 2012, can be considered the first modern processing of the history of crime in Hungary (Perényi 2012). In a separate chapter, this book attempts to spatially localize crime in Budapest in the age of dualism and to describe the work of the “monitoring, prevention, and discovery” police and the social map of the ever-expanding city. An essential aspect in the analysis of contemporary criminal geographic conditions is the presence or absence of a police presence and the location of built institutions of law enforcement, captains and guardrooms in urban space. The starting point of the present study is that, in parallel with the geography of crime, in addition to the spatial analysis of crime, the subject of the examinations may also be the research of historical sources on the housing conditions of police buildings and police officers. An important point for the adequate living conditions of the Budapest policemen, as well as the retention power of the police, was housing, which could have a significant impact on the private living space and disciplinary conditions of the police staff, changes in police numbers and criminal investigation and prosecution.

Keywords: police, law enforcement history, police housing project, police building estate

1. Housing options for police guards in a period of dualism

Part of the police crew was housed in barracks set up in buildings rented from the city government from the 1860s. As this system could not be financially viable in the long run, the Home Affairs Government intended to build a state-owned, state-of-the-art, high-capacity barracks that fully complied with police considerations. In April 1884, the Interior Minister approached the capital with a request to designate a corresponding area from the empty city plots next to the public cemetery (today: District VIII, Fiumei út Tomb Garden) for the construction of a cavalry-police barracks and a prison. The sent committee selected the 1,500-

square-meter area on the right side of Kerepesi Street, opposite the plot handed over to the Hungarian State Railway Pension Institute, bounded by Mosonyi, Festetics and Juranics Streets, as the most suitable for the purpose (Fővárosi Ügyek 1884).

Construction could begin two years later. From the justification of the bill submitted by Prime Minister and Minister of the Interior Kálmán Tisza, it can be learned that at that time, the state police rented four properties in the capital for barracks purposes in Eötvös Street, Aradi Street, Városliget and Lipót Boulevard. In 1886, 578 of the executive police staff had accommodation in one of the barracks, and 192 received support (housing money). Two officers – the Chief Commander of Police and a Supervisor – and 273 police officers had neither accommodation nor rent support, and the tenancy of three barracks was coming to an end. In the prime minister's opinion, the public service interest requires the proper placement of the police, so it is necessary to build a police barracks. The police barracks were planned to house 400 infantry and 120 cavalry police officers, 4 officers and some police officers, and a stable for 120 service horses. The location of the barracks was not accidentally designated next to the Eastern Railway Station. By being placed close to a busy point, it was possible to easily reach various parts of the Pest side of the capital on the straight, wide streets running from here.

The management, supervision, and control of crews in the building also proved beneficial from a service point of view. At the same time, the Prime Minister indicated that more construction would be required in the future because the barracks were not large enough to accommodate all the police. With the expiration of existing contracts, care must also be taken to accommodate the remaining staff (House of Representatives meeting on May 3, 1886). XV. Act was promulgated by the legislature on May 22 (Act XV of 1886). The ceremonial handover of the barracks on Mosonyi Street took place on November 15, 1886. Here he received a free apartment from the Chief Commander of Police and his deputy, the Chief Inspector of Police, the Inspector of Cavalry, a Sergeant of the Infantry and Cavalry. The police Headquarters' cavalry officers, the police recruits who spent six months training here, and the reserve department were given free accommodation here (Jelentés 1895).

During the millennium celebrations of 1896, it became necessary to build separate barracks in order to accommodate the police during the series of ceremonies. The Minister of the Interior and Chief Captain Sándor Sélley convinced the leadership of the capital that the barracks built at 65 Hermina Street outside the exhibition area would become the property of the treasury. A guard of 100-120 people would be placed here, which will perform its public security service in Városliget, Angyalföld and on the outskirts of the area (A kiállítási rendőrség 1895). Other

buildings continued to be leased in addition to the state-owned barracks on Mosonyi Street and Hermina Street.¹ Nevertheless, during the period of the Monarchy, the full deployment of the Budapest police, which increased from 620 to almost 2,570 between 1881 and 1914, could not be realized.

Another form of police accommodation was “guardroom” accommodation. Due to the growth of the area of Budapest and the large-scale population growth, an increasing number of guardrooms were established. These had to be rent out every 2-3 years by the police, but there were some that were handed over free of charge by public authorities, public and private institutions, companies or factories. The guardroom usually consisted of a dormitory and a bathroom, as well as the office of the commander of that guardroom. For each guardroom, great attention was paid to the hygienic conditions and to the fact that the building had a separate “reporting room” so that civilians would not disturb the police officers who were currently spending their rest time. The guardroom accommodation only functioned as a resting place for the police officers whose service was held in parallel. It was used exclusively by unmarried women, widows, or police officers living away from their families (Jelentés 1895, Jelentés 1900, Jelentés 1909).

2. Individual housing problems of police officers

Budapest Chief Captain Béla Rudnay first mentioned the police staff's individual housing problems in his 1899 summary report to the Interior Minister. Primarily beginner, 2nd class police officers (757 people) and cavalry police officers (141 people) housed in the Mosonyi street barracks were involved in the housing issue. The vast majority of them, like the rest of the guards, had family.² These two groups did not receive “rent allowance,” and if the police officer requested accommodation in one of the barracks, he was inevitably separated from his family. *“So it is the married, family people who need all the money the most, they are even forced to keep an apartment out of their meager 420 forints. And this circumstance, in contrast to the great cost, makes their livelihood almost unbearable. Many of them get into trouble, get into debt, and are forced to look for housing on remote plots and even in nearby villages, which again does not benefit the service.”* (Jelentés 1900, 56.)

¹ The annual reports of the chief captain mention the following rented barracks: II. Iskola Street 44., II. Medve Street 3., VI. Felső erdősor 50., VII. Bibor Street 8., IX. Remete Street 5-7.

² In 1899, 82% of the police crew (1356 people) were married, 16% were unmarried (274 people) and 2% were widows (43 people). Statements on marital status did not include police officers' children (Jelentés (1900) 51–52; 56.).

Although the experience showed that married police officers were a stable, long-serving part of the guard, severe financial and family problems (e.g., poor housing conditions and resulting illnesses, marital strife) resulting from a lack of housing money had a repercussion on service and police stability. As a result of the demoralizing circumstances, these police officers could become inactive and unkind in the service. Even under the strictest control and supervision, it could be easier for them to leave their service or intentionally commit a disciplinary offense to fire them. Of course, all this was to the detriment of the service and the treasury because those who had already been trained and graduated from police school were replaced by new recruits, and the cost, time, and effort of teaching them were wasted. Most of the pedestrian police officers were away from the duty station in the capital, and the guardrooms served only as resting places (they did not have enough beds for all police officers), but the management could not have such an inhuman expectation that the police officer lived separately from his family.

Nevertheless, it was common for the head of the family to be forced to send his relatives home to the countryside for financial reasons. Because it was not necessarily possible to maintain a private home on its own, married police officers usually lived in a flat with families from lower social classes, while unmarried women mostly lived with a "lonely female person." The captain's reports specifically point out that this way of life can pave the way for moral depravity and deviance from which the order's soldier must be protected: "The chief captain considered it necessary that from the day of their finalization, all police officers, without exception, should receive 'housing money' to *"make the police service better by helping married, family police officers."* (Jelentés 1901, 60; Jelentés 1902, 57; Jelentés 1903, 68-69.) Finally, in 1904, the government regulated the amount of personal allowance for state employees, including the Budapest State Police members. The second class policemen and troopers got 240 crowns of housing money per year by law (1904. évi I. törvénycikk az állami alkalmazottaknak engedélyezendő pótlékokról; 1904. évi 530. M. E. számú rendelet az állami alkalmazottak részére pótlékok engedélyezése tárgyában). According to the salary regulations issued in 1909, housing money of 400 crowns per year was paid quarterly to all police officers who did not receive a placement (Illetménytáblázat 1909). The rent arrangement somewhat improved the guards' living conditions while consolidating the police force's retaining power for the remaining years of peace.

3. Police flats in the Citadel

During the retaliation following the defeat of the revolution and the war of independence in 1848-1849, the Austrian command decided to build a fortress on Gellért Hill (in previous battles, the artillery fired on the Austrian guard of the Buda castle from here). The construction of the Citadel lasted from April 1850 to June 1854. The robust walls of the structure were 3-4 meters wide and 12-16 meters high. An 80-meter-deep cistern provided the water supply in the courtyard to the residents of the citadel. After a long negotiation, on February 23, 1899, the army withdrew from the "Bastille on Gellert Hill" (Róbert 2020).

With the disappearance of the fortress, as early as 1899-1900, new residents moved into the Citadel: *"The capital could not do anything with the giant building and, so that it would not stand empty, allowed the police stationed on Gellert Hill to have a homestead there. This permit made the Citadel very popular among the police. [...] At that time, 29 police families lived in it. Twenty-nine police officers, 28 women and 80 children. So until the question of the fate of the infamous citadel is decided, the capital handed it over to the police as free accommodation to increase the security of Buda's person and property."* (A Czitadella sorsa 1903, 11.) Family police officers (mostly those who served in the Buda parts) used the old dungeon's crew rooms as their residence. Examining the housing list of the Budapest Address and Housing Register, it can be seen that after 1904 the number of police residents dropped drastically. Probably one of the reasons for this was the introduction of rent subsidies within the police. By this time, also the homeless poor people evicted from the Gellert Hill shelters could be arbitrarily moved within the walls of the fort (A citadella új lakói, 1904). In 1905, due to protection against cholera, several residents of emergency homes were placed in the Citadel (A kolera 1905). By 1908, there were almost no police residents left in the building.

4. Police officers' housing conditions in the first half of the 1920s

According to the 1920 report of the chief captain, the regularized number of guards had not been fully filled for many years, and a constantly fluctuating but rather rising shortage of 600-800 people could be detected. In 1921, instead of the regularized 4,500 people, which were to be achieved from a law enforcement point of view, the actual number was only 3,100, of which only 2,262 police officers performed street service (Jelentés 1921). Among the reasons, the conditions of the exponentially more difficult living conditions of the capital compared to the countryside, especially the lack of housing, were clearly marked. As the members of the guard crew, as before, were selected in large numbers from the rural agricultural stratum, it became

apparent that the police force could not be fully recharged until it was hampered by a housing shortage.

Although three other barracks besides Mosonyi Street were in police use, they did not provide enough space. These buildings met the needs of the peace era when family police officers were able to maintain a sublease at a relatively reasonable price from the housing allowance allocated to them (*A budapesti rendőrök lakásviszonyai 1925*). Due to the shortage of staff in the capital, the police's overtime became so burdensome that it was almost necessary to fear the collapse of public order. In 1921, 719 police officers were hospitalized, in 2572 cases the police officer was discharged due to illness, and eleven deaths were also reported in the statistics. The police leadership also had to consider the fact that the rural man preferred to serve for the same salary in cities closer to his home and provide a better, cheaper livelihood than in Budapest. Candidates of urban origin (typically industrial and other skilled workers) continued to be treated with caution, as experience showed that they considered the police career only as a temporary source of livelihood and, if they had a better job, even at the cost of disciplinary retaliation, they left the police corps (*Jelentés 1922*).

Most police officers who did not have access to housing in kind were crowded in musty basements, attics and public housing. There were also a large number of police officers renting beds who had virtually no housing. Between 1919 and 1925, a total of 6,000 people were trained as police officers in the capital, of which only 3,916 remained at the board because the others sought his dismissal, mostly because of the housing shortage. In 1925, there were still 467 police officers without own flat in Budapest (*A budapesti rendőrök lakásviszonyai 1925*). The number of the needy was no more simply because, as part of a housing plan launched in 1920, the Minister of Welfare and his staff embraced the issue of "homeless police officers." Thanks to his measures, he built three barracks in the Zita military hospital area on Gyáli Street. He made them habitable, as well as on the housing estates established in these years: the Augusta settlement in Kőbánya, the Ehmann settlement in Cinkota, the Mária Valéria settlement and the Wekerle settlement in Kispest and also established about 120-150 apartments for police officers (*ibid; Akció az őrszemélyzet lakásínségének enyhítésére 1927*). In the treasury buildings used by the police, where possible, the number of rooms for official purposes was reduced, and the vacated rooms were converted into flats, such as the Fortuna Street building of the District I Police Headquarters, the Mosonyi barracks and the headquarters of Ferenc József square building. During the construction of a small apartment building in the capital, many police

officers also obtained housing through the intervention of the Minister of the Interior and Chief of Police János Török (Akción a budapesti rendőrőrszemélyzet lakásínségének megszüntetésére 1927).

In the first half of the 1920s, police committed more and more disciplinary offenses generated by a housing shortage. Police journals reported a - not unique - case where the wife, who remained in the countryside, called her husband, a young police officer moving to Budapest, useless because he could not find a suitable apartment in the capital. The head of the family began to drink in grief, which later led to domestic violence. Some police officers, on the advice of their relatives living in Pest, became illegal occupiers or victims of food fraudsters and irresponsible leases. In the cases listed, disciplinary experts highlighted the demoralizing effect of the housing shortage on the family: the father began to drink, the wife became unfaithful, the children became bored. Another category was a group of opportunistic police officers who waited until they got an apartment through their superiors' intercession and then immediately looked after another occupation. These homes allocated by the housing office were virtually lost to the police (Benedek 1925).

By 1926, with the stabilization of the Hungarian currency (the crowns), economic uncertainty had disappeared, the balance of the state budget had been restored, and expenditures had barely exceeded revenues. The government started state constructions and mass house constructions. The Ministry of the Interior also developed a construction and building improvement program for the police, which made it possible to eliminate the greatest placement difficulties. Within this framework, it was possible to renovate and to expand the properties of the police stations of the rural towns and the Budapest district police stations and to purchase new buildings (Szelecsényi 1929).

5. Police housing estates

As a solution to police housing, the idea arose as early as 1920 that family police officers should be provided with settlements with which accommodation could be provided at a rate of 99% (Jelentés 1922). In 1925, this idea came to the fore again in an article: *“It would be ideal to create a police station where police officers would live in a colony, away from other people. That would be invaluable to the social order.”* (A budapesti rendőrök lakásviszonyai 1925, 2.) The first wave of the program launched in 1926 affected only the official buildings of the state police. Increasingly impatient voices from the political opposition drew attention to the

unbearable living conditions of the Budapest police. In May 1927, at the hearing of the Ministry of the Interior's budget, according to the representative of József Pakots, 700 police officers in Budapest were forced to rent beds and live among women and men under police supervision. And in some guardrooms, police officers can only rest in the same bed alternately every two hours. He also cites specific examples in his speech: *“In a basement of the house at 18 Grassalkovich Street, János Gazdag is forced to live with a woman, with her adult daughter, a waiter, another woman, her two children, and this woman is not reported and her name cannot be established. Policeman István Kovács XXIX lives in half of a kitchen with five people. Police Sergeant József Máté lives in a wooden chamber, far from Kelenföldi Avenue, with his family, where the rain drips. For many years, a sergeant lived in a room so wet with his family of seven that his three children have died in a lung attack, and since then his entire family has become lung-sick, which makes them incurable.”* (Képviselőházi napló 1927, 2.) In his reply, Interior Minister Béla Scitovszky acknowledged the problem outlined. He stressed that the government is constantly striving to alleviate this serious condition, which is no longer permissible from a moral point of view. He demanded a loan of 1,100,000 pengos from the Minister of Finance, of which he wanted to build police homes of 100-150 flats as a first step. Following the Canadian model, he wanted to build suburban-style, villa-like one-story palaces, each consisting of four hygienic apartments. The Interior Minister rejected the idea of mass housing construction: according to him, at most, unmarried police officers could be placed in a barracks-like manner (ibid.). According to the official police newspaper, from the 4,000 guards, 550 married family police officers lived without an acceptable, ordinary apartment. Their family lived mainly in the countryside, with relatives, while the head of the family tried to thrive as a tenant. The police magazine drew attention to the dangers of depravity and indebtedness due to homelessness: *“A police officer's apartment will be the last thing he spends money on, he wants to save money here, and he will look for the accommodations where he has to pay the least. His path leads to the suburban mass dwellings and slums, where he spends the night on relatively expensive money with people from the lower strata of society. These police officers contact those who live there, which can be detrimental to the police. Police officers living in public housing, apartments alone or with their families are barely able to pay the rent, as a result of which they will have debts. They have a dependent relationship with the people they should control.”* (Akció a budapesti rendőrőrszemélyzet lakásínségének megszüntetésére 1927, 7-8.)

The final settlement of the police housing issue took place between 1928 and 1929 with the construction of two small-house police housing estates, the equipment of which already met all

modern requirements. The first settlement, named after Governor Miklós Horthy, opened in November 1928. The settlement was in six thousand rectangles bordered by Fehérvár, Kanizsai and Fadrusz Streets, and the railway embankment running here. Eighty families and nearly 50 unmarried police officers were housed in the six buildings of the settlement. The married police officers could occupy two rooms, a kitchen, a pantry, an anteroom, an apartment with a bathroom, and the unmarried could be accommodated in common rooms. The building for unmarried police officers shared bath and shower rooms, a library, reading rooms, gyms and medical offices. The comfort is complemented by hot water heating and hot water supply. Each residential building is one-storey, with two flats per staircase, a total of eight flats, with spacious, healthy rooms with balconies overlooking the grassy courtyard (Szelecsényi 1929; Felépült a rendőrtelep 1928). With this venture, it was managed to reduce the number of “homeless” police officers to 400. As early as the second half of 1928, the construction of the second, larger settlement on the Pest side, in Dagály Street, in line with the northern tip of Margaret Island, began, where were also restaurants, several shops and a police room. The first residents were able to move into the facility in November 1929 (Szelecsényi 1929; A Dagály-uccai rendőri lakótelep 1929). From the beginning of the 1930s, the Dagály Street police station also housed a department that managed and supervised new police officers' training.

Summary

The Budapest police guards' adequate living space and living environment significantly improved the policemen's living conditions while consolidating the police force's retaining power. Aspects of police placement also included geographical aspects of crime. By establishing housing estates as micro-communities, the Home Affairs Government sought to separate the police officer and his family from the criminalized elements, thereby strengthening internal discipline and minimizing the potential for disciplinary offenses. At the same time, it can be observed that the top-down creation of the living environment for police officers also served long-term service purposes: in addition to police officers housed in barracks, residents of smaller and larger police colonies provided a concentrated, rapidly mobilizable armed force for the corps.

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CRIMINAL GEOGRAPHICAL ANALYSIS OF CYCLING ACCIDENTS IN BUDAPEST

Keywords: criminal geography, traffic, accident, bike, traffic accident

Abstract

Several studies have already mentioned that geographic crime methods are also suitable for analyzing traffic accidents and crime. However, the theory was not followed by practical work, so like many research topics, it was only stuck at the level of theory. The study is part of a series of studies listing possible areas of research in criminal geography. The present study examines

the spatial location of bicycle traffic accidents in the Hungarian capital. It tries to shed light on regularities that can help to find out the cause of bicycle traffic accidents in the Budapest Police Headquarters and to reduce the number of accidents. In this paper the focus is on the Grand Boulevard in Budapest, highlighted the accidents on its Pest section.

1. Introduction

According to Nobel Prize-winning English scientist Bertrand Russel, "Sin is geographical." This finding is also valid in the investigation of traffic accidents. Geographical regularities can also be observed in the investigation of traffic accidents. Evident: an accident is not a "sin." However if we have a sufficiently large number of accident statistics it is possible to state spatial correlations between each accident that can be successfully used in subsequent accident prevention work. As we mentioned many authors have dealt with the possibility of the applicability of criminal geography in the field of traffic policing (Mátyás-Sallai 2014, Tóth 2007); however such research has not been carried out in Hungary so far.

Criminal geography research mostly covered the area of the capital; although this research usually analyzed the crime geography of only a few districts and examined only the spatial distribution of the events. The study covering the whole capital was carried out by the authors János Sallai - István Kobolka (2008) and Gábor Michalkó; the latter researcher analyzed the criminal geography of the capital from the aspect of tourism security (2002). Based on these, we can state that present research can be considered unique and novel in criminal geography and law enforcement in Hungary.

We are pleased to state that the depiction of crimes and accidents on digital maps is becoming more and more widespread in Hungary as well. There are still several websites where certain types of accidents and crimes can be displayed (eg. www.police.hu, <https://prestat.lechnerkozpont.hu>). However these allow only limited access to the public and in many cases to the investigation's interests. The available data is also delayed. However the PRESTAT system is also available from the RobotZsaru system (the main data processing system of the Hungarian Police) which contains up-to-date data and allows street-level analyses (with strict restrictions of usage and data security). However a standalone map cannot say much information in its own. It is necessary to have a competent specialist who can draw conclusions, establish regularities, shed light on the causes of accidents and possibly forecast for the future.

In the present study the authors want to study the primary spatial distribution of bicycle traffic accidents in the area of competence of the Budapest Police Headquarters and on the Grand Boulevard³

2. Milestones in the history of cycling

According to a saying attributed to Lech Walesa, “I am a lazy person. But the lazy man also invented the wheel and the bike because he hated walking and sneaking.” (<https://www.brainyquote.com>) Did a really lazy person invent the bike? If I were Italian I would protest and argue with reference to the raw bicycle-like sketch of Leonardo da Vinci’s Codex Atlanticus⁴ while in German I would mention Baron Karl Freiherr von Drais’s (1785-1851) treadmill. The treadmill dubbed “Draisine” was greeted with mixed emotions. The single-track pedal-less vehicle with two iron wheels and a steerable rod mounted on the front wheels could roll at speeds of up to 15 kilometers per hour; four times faster than the horse-drawn carriages used at the time (<https://ng.24.hu>).

To remedy the problem of the lack of pedal-less Scottish blacksmith Kirkpatrick Macmillan built the world’s first pedal-equipped treadmill in his village workshop in Dumfriesshire (Németh 2012). (Also to his name is the first bicycle fine in world history imposed by Glasgow police in five schillings for injury to a passing child /<http://www.bbc.co.uk/>.) In the early 1860s Piere Michaux (1813-1883) further developed the dandy horse.⁵ This resulted in the birth of the velocipede, which is considered the predecessor of today’s bicycle.⁶ A company called Michaux et Cie embarked on the mass production of bicycles initially mounted on a simple wooden frame then on more sophisticated two-piece cast-iron frames and later on a diagonal wrought iron frame. International and cross-continental bicycle sales as well as growing interest in bicycle

³ Among the causes, many factors play a role that the study authors did not examine in the present research. When investigating the causes of accidents it is necessary to use transport geography, settlement geography, natural geography factors as well as examine the catchment area of a given settlement (see Bujdosó 2004 for more details). Unfortunately drug use is increasingly included as a causal factor among the causes of accidents. In the present research neither alcohol nor drugs were investigated among the causes of accidents which can only be investigated within a national framework. The regulation of intoxication and drug addiction is different in each country; there is no uniform European regulation (Mészáros 2016). Numerous studies have already shown that. Traffic accidents, various drugs are unfortunately occurring in increasing proportions in many areas of life (Major 2013, Sivadó 2016, Sivadó 2017).

⁴ It has been proven that Leonardo’s bicycle does not belong to Leonardo not even to an talented disciple but to the drawing of a monk who restored manuscripts in the 1960s. The material of the paper and ink was analyzed and although the paper was originally from the XV. century but the ink is from the XX. century.

⁵ The dandy horse is a derogatory term for a human-powered two-wheeled vehicle that is considered the forerunner of the bicycle.

⁶ The bicycle is the forerunner of today’s bike. The difference between today’s bikes and velocipedes is in the drive. In the case of velocipedes, the front wheel was driven directly.

demand have resulted in the production of several additional products (e.g., more comfortable seat, tire, chain drive, mudguard, ball bearing) and further continuous development of the bicycle. (More than a hundred patents have been filed for the technical improvement of bicycles in Britain.) The late 19th-century bicycle was a sporting asset for wealthy citizens but it still struggled with significant technical shortcomings at the time. At this time we can talk about the widespread use of the bicycle mainly due to the lack of free time available for cycling and the low purchasing power of the lower classes. As part of an unstoppable development to this day John Kemp Starley (1854-1901) created a bicycle that can be slowed down with a brake and can be said safe in today's sense. Using the innovations of John Boyd Dunlop (1840-1921) Edouard Michelin (1859-1940) created the bicycle tire that could be pumped through a valve.

In 1878, the first bicycle that could be rolled by foot appeared in Hungary. Later bicycle shops were opened and large bicycle companies seeing the growing demand set up warehouses. Cycling schools have opened and published books on cycling maintenance throughout the country as well as newspapers on cycling. Cycling associations have played (and still play) a major role in creating a culture of cycling as they have taught people how to use the bike properly. These organizations nowadays carry out a wide range of activities to promote the bicycle as a means of transport (Frisnyák 1988).

3. Traffic in Budapest

Today, cycling is a form of urban transport as well. At the beginning of the 2010s cycling was also rising on Budapest's modal split (Felföldi 2020). This was mainly due to the flexibility of this mode of transport and the increase in congestion in the downtown areas which could also be explained by the increase in the level of motorization (Holló 1998). As a youthful and seemingly independent mode of mobility cycling emerged as a fashionable alternative by the early 2010s. However this growth reached an upper limit by the middle of the decade and it can be said that those who felt comfortable in cycling in Budapest changed their transport habits by then. This group did not expand significantly until 2019 based on traffic data.

The COVID-19 pandemic also appeared in Hungary in 2020. It has created an entirely new urban transport situation. The transport of big cities has changed with incredible dynamism thanks to the people's closures and their caution. This has resulted in a drastic passenger loss of public transport (Ekés et al. 2020) in favour of private transport. The total volume of turnover also decreased (Nagy 2020). The remaining turnover was significantly restructured therefore the decrease in turnover did not occur to the same extent. Thanks to this restructuring there has

been a 'now or never' attitude in transport management worldwide. Individual cities being given the opportunity to manage their long-standing transport management problems without the situation created by COVID-19. In this changed situation the possibility of diverting transport processes to a new channel was also included. One of the most visible examples of this in Budapest was the cycling infrastructure which was gradually being built on Nagykörút (Big Boulevard) and was considered temporary for the first time but was finalized in the autumn of 2020 after several technical changes.

3.1. Bicycle accidents on the Budapest Grand Boulevard

The present research's primary goal was to determine whether the distribution of accidents shows any geographical features in downtown Budapest. In the present paper, the whole city center means the area within the Grand Boulevard, which is south of the Margaret Bridge, north of the Petőfi Bridge. In Pest it bordered by the Ferenc, József, Erzsébet, Teréz and Szent István boulevards (classically it is the Grand Boulevard in the public discourse) and in Buda by Irinyi József street, Karinthy Frigyes road, Villányi street, Alkotás road, Széll Kálmán square and Margit boulevard. This area with its roughly 12 km² exceeds the size limits of the present research. Therefore we limited the focus of the study only to the Pest section of the Grand Boulevard.

One of the frequently asked questions is whether it is worthwhile or necessary to create a cycling infrastructure in an urban environment. The biker can travel on the road by following the rules even without the need of bicycle surfaces. As we can see from the traffic counts (Felföldi 2020) this ratio has stagnated in the last 4-5 years. In comparison as a result of the development of the infrastructure the proportion of cyclists rose in 2020 even in the less weather-attractive months. This fact clearly cannot be attributed to a random effect (Halász 2021).

However the question arises that how the modified infrastructure and the changed composition of road users affect road safety. The answer to this can be found out by a more detailed analysis of the accidents registered by the Budapest Police Headquarters (BRFK). Data are available for the research from 2011 to 2020 with the same method. From 2013 to the end of 2020 the location of accidents involving cyclists and investigated by the BRFK is also known if the cyclist causes the accident. Such an in-depth analysis was performed for the 2011 and 2012 data (Felföldi 2013) which can be used to determine the proportion of causes and participants for those two years. From the data collected from 2013 it is possible to determine the proportion

of causes and participants in relation to all accidents in Budapest. It is also possible to filter out the number and severity of accidents that apply only to the examined section of the Pest boulevard.

First of all, look at the accident numbers for 2011 and 2012 as location data for cyclists and participants is available. In later years, only the location data of the causes are known. In Chart 1, we can see their evolution from 2011 to 2020.

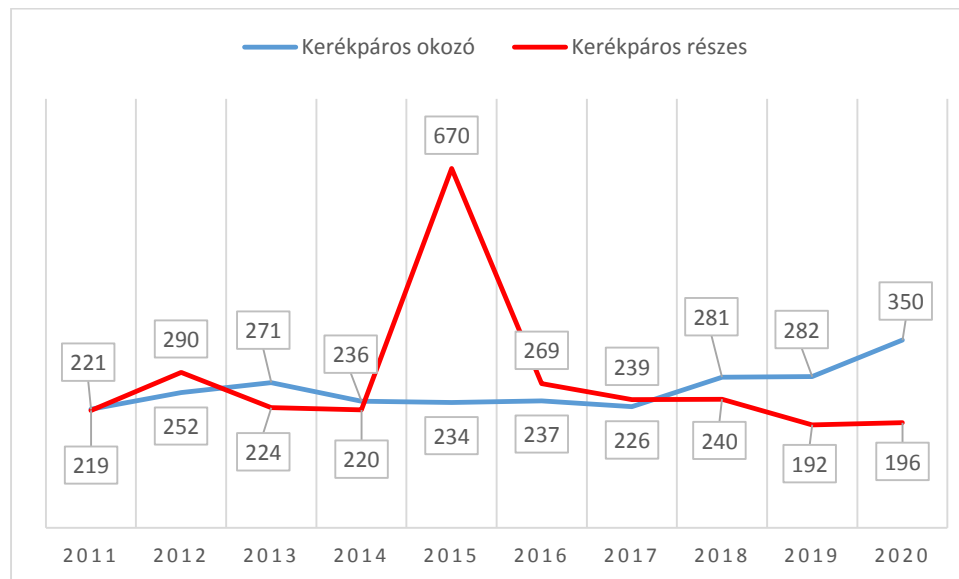


Chart 1: Bicycle accidents in Budapest (2011-2020) (blue: accident cause; red: injured)

Source: Own editing based on BRFK accident data

For the first time the chart shows the high proportion of bicycle accident victims in 2015. There is no logical explanation for this as there was no change in BRFK's accident recording methodology this year. However, the cycling traffic counters data do not show any discrepancy that would justify this leap.

However, from the point of view of the present study the period from 2017 to 2020 is much more interesting. The bikers' role played in the accident seems to be reversed. Cyclists cause a trend-like increase in the last 3 years.

It can also be said that while the usage of cycling has jumped, the emerging number of cyclists may also have a smaller traffic routine. However, the declining casualty rate also suggests that other road users pay more attention to cyclists. However in 2020 all other modes of transport generated a lower presence due to closures.

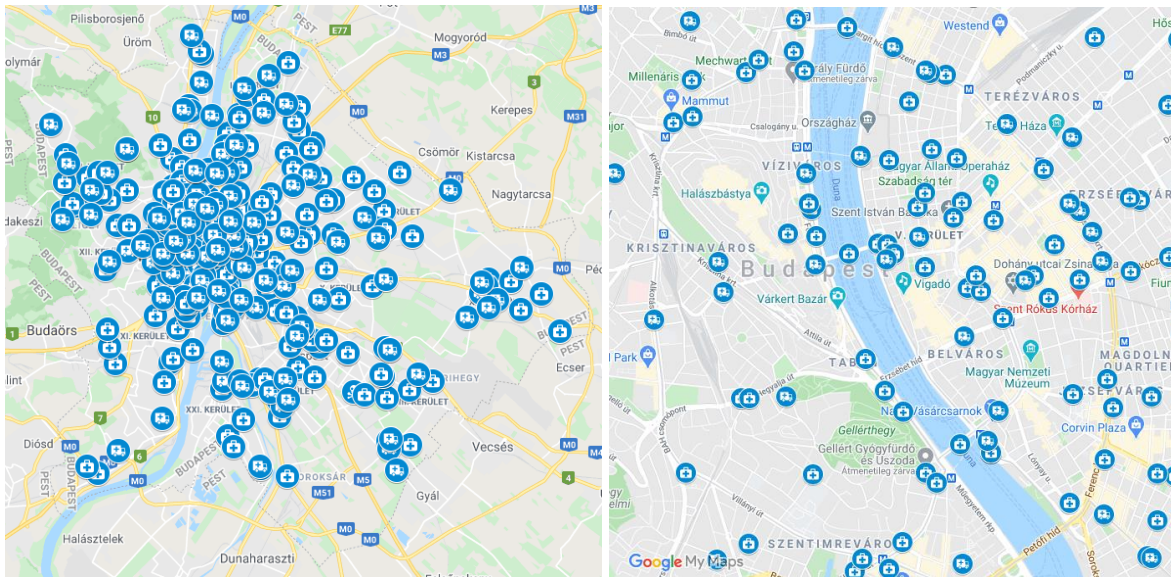


Figure 1: Locations of minor, serious and fatal accidents with cyclists in Budapest. Only the city center on the right (2020). (first aid kit: minor injury accident; ambulance: serious injury accident; skull and crossbones: fatal accident)

Source: BRFK accident data and Google Maps, own editing

As the rate of causes was the highest in 2020 we also plotted this year separately on a map for the whole city and approached the studied area in more detail. It can be seen that in the city center where we assume density based on the overview map we cannot find a more serious focal point of accidents on closer inspection. This is only a one year data and only the causes have been plotted.

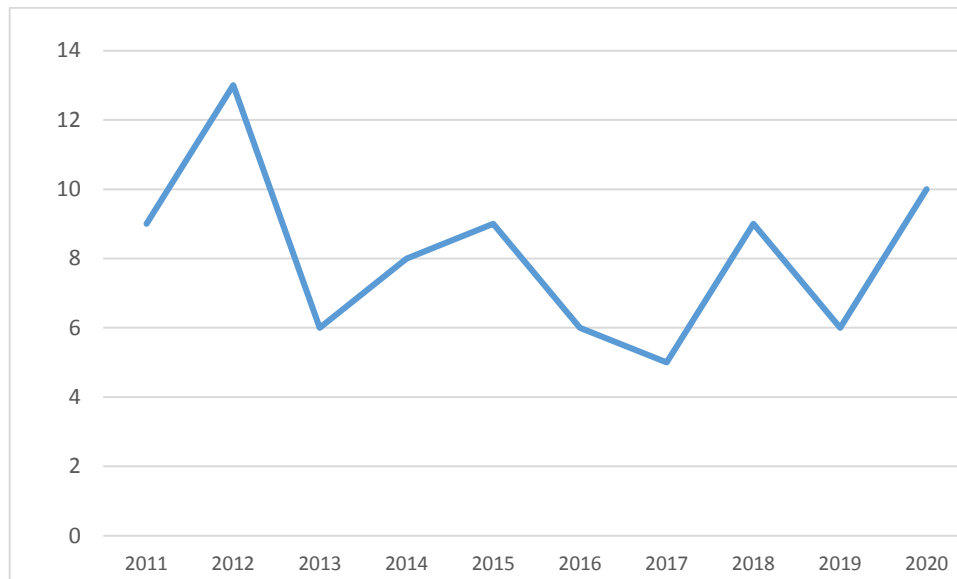


Diagram 2: Grand Boulevard, cycling causes, 2011-2020

Source: Own editing based on BRFK accident data

In connection with the Grand Boulevard in Pest, we can see in Figure 2 how the cyclists'-caused accidents developed. The number of cases is not high therefore the curve has a stochastic effect. It can be said that in the first half of 2010 the average value was higher than towards the end of the decade.

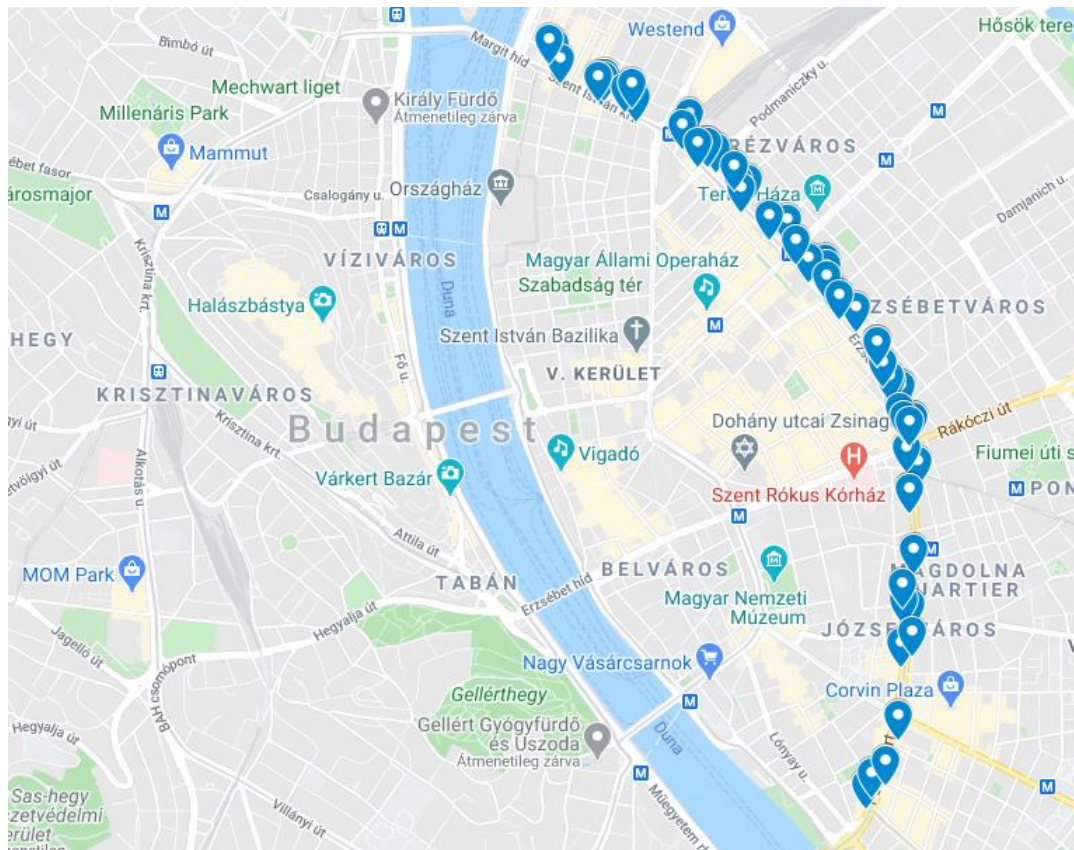


Figure 2: Bicycle accidents on the Pest section of the Grand Boulevard (2013-2020)

Source: BRFK accident data and Google Maps, own editing

Figure 2 shows the accidents on the examined Pest Grand Boulevard section between 2013 and 2020. Regarding to Budapest as a whole it can be said that instead of accident focal points it is possible to name more dangerous routes with a higher accident density in Budapest. From a distance the whole Grand Boulevard one of this dangerous routes. Although in detail accident densities can be discovered even within this section. In two cases, even accident hotspots can be found.



Figure 3: Accident densities in the Pest section of the Grand Boulevard.

**Left: Blaha Lujza Square, right: Szent István boulevard
Hegedűs Gyula street junction (2013-2020)**

Source: BRFK accident data and Google Maps, own editing

It can be misleading that Figure 2 and Figure 3 do not show accidents differentiated by time. It should be remembered that these markers show eight years of aggregate data. In such a time frame 3-4 accidents registered at the same address or adjacent addresses do not count as extraordinary. No long-term conclusions should be drawn from 2020 on either transport safety or urban development. There is an organic pace of traffic development that can be catalyzed by certain effects (for example the closures caused by COVID-19).

Closing thoughts

It is impossible to draw far-reaching conclusions from the number and location of accidents, not only in the Grand Boulevard case but even from the entire Budapest data set. As mentioned earlier in the Grand Boulevard case four significant changes were made only in 2020 in relation to cycling infrastructure development. COVID-19 created a situation that no one had encountered before. It is understandable that the legislators, traffic developers and managers of certain public areas had to solve a new and unknown challenge with no ready-made scenario. Traffic had to adapt to often changing conditions within six months. This turbulent situation in terms of traffic is still going on. In order to get to know the long-term impact of the cycling

infrastructures created as a result of COVID-19 further data collection and analysis will be necessary, among others a more thorough study of municipal law enforcement plans (see more: Christian-Bacsárdi 2017) and repetitive traffic counts on the examined areas.

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INVESTIGATION OF DIFFERENT VISUALISATION METHODS FOR CRIME MAPPING⁷

ABSTRACT

There are a quite many GIS application available on the internet showing crime statistics all over the world. The usual visual methods for these statistics are generally pictograms and point symbols. These visualisation methods raise two problems that they are not able to transmit the real crime situations to the users, because it is not easy to interpret the content of it. The other problem is that they may harm the confidentiality of the victims. Therefore in this study the authors tested the applicability and effectiveness of other visualisation methods.

Keywords: crime mapping, visualization, usability study

1. INTRODUCTION

Crime mapping recently is a very important communication platform between the citizens and police. This type of visualisation of crime data is widespread all over the world. In some countries it is also ubiquitously used among citizens when they would like to buy a flat, to decide where to find school for their children etc. If someone browsing the web the usual visualisation methods for crime maps is aggregation for a greater district level, point symbols, Crime information can be shown on a map shaded to show crime rates in each area compared to the average across London, or as text by clicking on the "Text view" tab. All the data is aggregated to the level of sub-wards. Sub-wards are the smallest areas shown on the map. Sub-wards are known formally as lower super output areas (LSOA), with an average of 633 households [3].

Another common solution of visualisation of crime on maps is using different symbols or points for showing crime locations. Leitner and Curtis [4][5] had found that point symbols can be reversed geocoding from maps, and that the preservation of someone's spatial confidentiality depends on population and structure of the neighbourhood independently from the scale of the

⁷ Originally was published in the 14th International Multidisciplinary Scientific Geoconference.

map. From the visualisation point of view using point symbols is not a very good solution as spatial patterns cannot be revealed. On the contrary the public weal requires that the spatial patterns of crime should be available for safety purposes.

Also building a surface using geostatistical method, like kernel density estimation, has been already used [6] but only for scientific purposes. With using this method spatial differences between blocks become smooth. This method is mostly used in hot spot detection. Though for the citizens it would be interesting to see the spatial patterns of their surroundings also.

The authors think for crime mapping purposes other visualisation methods can be tested. A previous work of Pődör, A. already proved that contiguous cartogram can be a good alternative solution for showing spatial tendencies of crime in a city [7]. Although using this method a problem acquiring because some previous research showed that cartograms only be understood if there is a map showing original spatial reference [1][2]. Therefore the users need to use two maps: one with original polygons and one with distorted polygons. In this research the author found that creation of reference polygons can be based on the blocks of a city.

In this context the purpose of this study is to analyse the effectiveness of two very common and essential cartographic methods for visualising quantitative data: graduated colours and graduated point symbols for crime mapping purposes referenced on block polygons. In the study authors investigate (1) how successfully these two methods can be applied for visualising crime data in municipal surroundings and (2) how well users can define differences according the classification used on the maps.

2. MATERIALS AND METHODS

In fall semester 2013, 24 land surveyor BSc students participated in the introductory course on Cartography. The age of each students, taking part in the survey, were 18 to 25. This semester was the fourth semester at the University of West Hungary for the 90% of the students.

The city of Székesfehérvár was used as the pilot area. The city is a medium sized Hungarian settlement which can model the average circumstances of Hungarian cities. Crime statistics shows that usually there are 6-7 000 crimes happen yearly.

The test consisted of two parts. In the first part the participants got the map using graduated colours where the reference polygons were coloured according the total number of crime than they should also process the second map where graduated point symbols method were used. On both maps all the blocks inside the city was indicated and labelled with an ID number.

2.1. PREPARATION OF THE TEST MAPS

First the authors processed the crime data which was the main thematic attribute of the map. In the test all kind of crime data was used. The crime data were geocoded and it was stored as a point layer. The main purpose was to see how certain areas are affected by all type of crime in the city of Székesfehérvár and the test was a modelling the process how effectively can test persons retrieve information from the maps using different thematic cartographic methods.

In preparing the test maps the authors used a method previously used in a former research [7] where polygon blocks were created by using the street network. Then a spatial join were applied between crime data and polygon blocks of the city, so in this method crime data became the attribute of the polygon blocks. The structure of the city is irregular. In the inner city medieval part can be found with narrow streets, but also block houses are located there. These structure causes that there are a lot of irregular shaped polygons with a great variety in size, though regular forms are also presented. Not the whole city was used in the study. There were 724 blocks of polygons appeared on the maps.

The maps were prepared in ArcGIS at a scale 1:20000. In the case of both test maps the same classification method of natural breaks of Jenks were used and the data were sorted into 5 categories in order to be able to compare the result. The 5 categories were: 0-14; 14-46; 47-119; 120-270; 271-736.

On MAP1 (Fig 1.) the “Orange Bright” colour range were used. On MAP2 (Fig. 2) graduated symbols were coloured by dark blue and the symbol size were varied from 4 to 20 points.

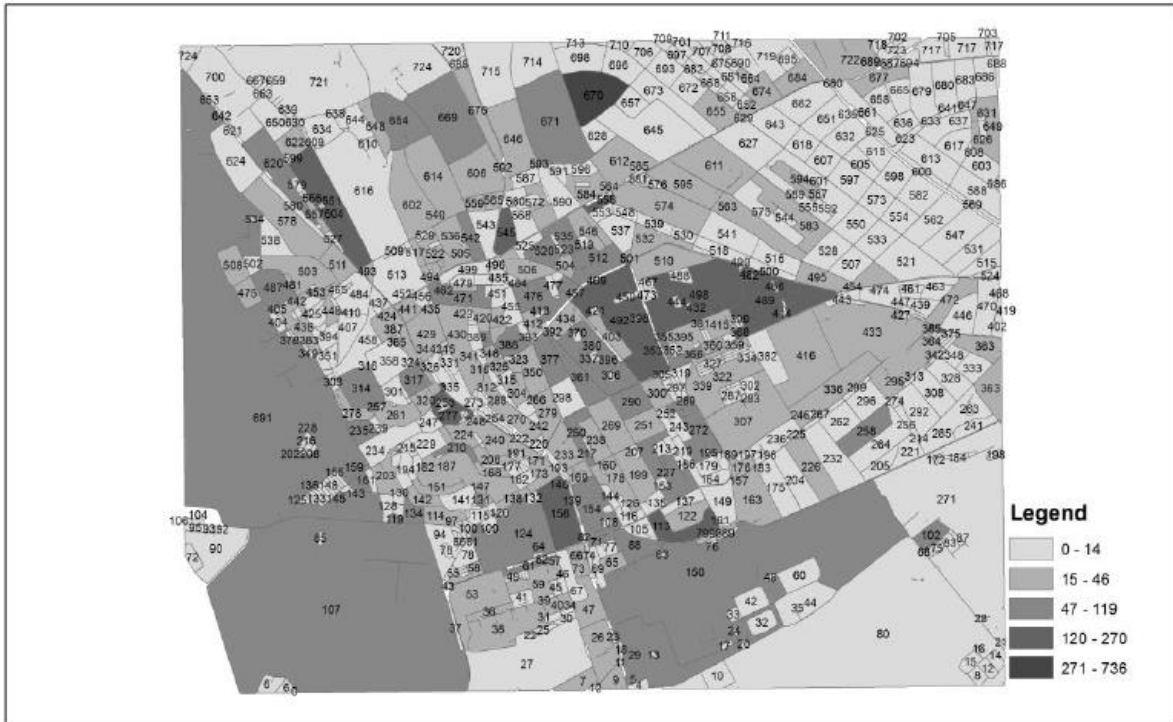


Fig. 1 Graduated colours method used in the study of test maps

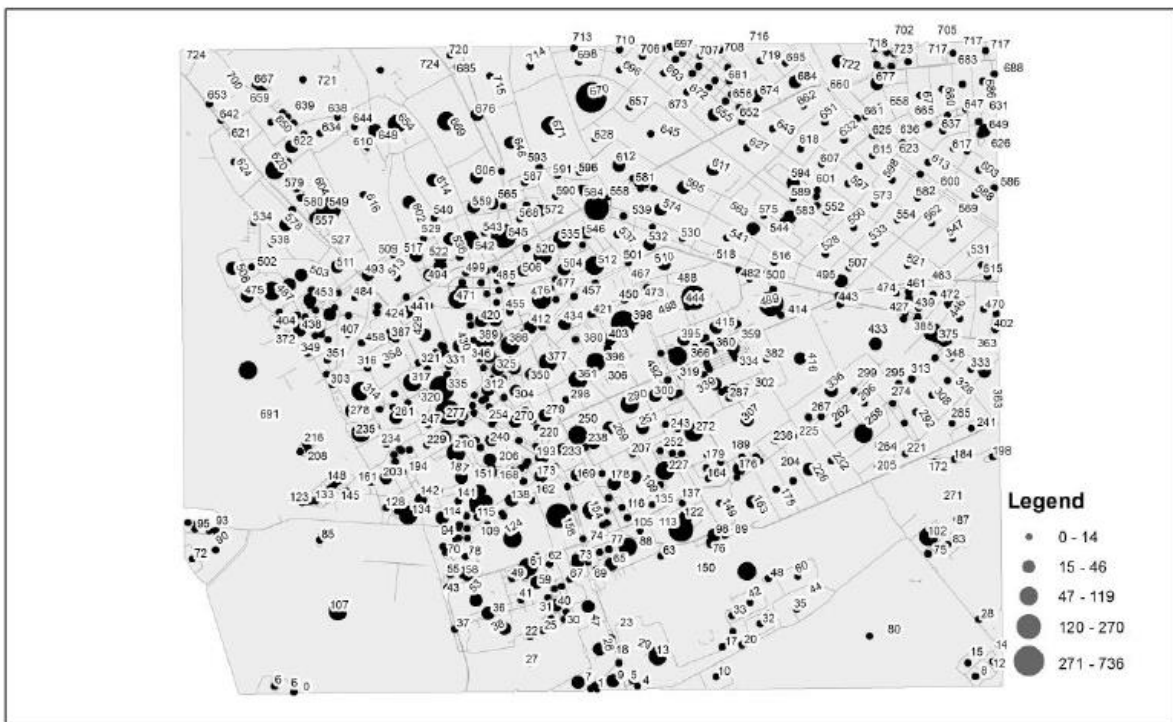


Fig. 2. Graduated point symbols method used in the study on test maps

2.2. EXPERIMENTAL TASK

The purpose of the test was to simulate the experimental phases when users studying the structure of the crime map and they try to reveal information connected to spatial patterns.

The participant conducted the experiment in a computer lab and an e-learning platform was used to store the maps, also the test participants had to upload their results to that platform. The test took minimum 17 maximum 68 minutes for the participants.

In test they had to study MAP1 and when they were finishing they had to continue with studying MAP2. In the test their task was to define five polygons using the ID number of the polygons written on the maps within each classification categories used on the maps. They had the freedom to choose any polygons which was classified into a certain class according their number of crimes. On the first maps they could use the colours as a graphic variable to identify each category and discriminates between polygons, on the second map they could refer to the size of the symbols which was generated according the previously mentioned classification method. In the case of the second map, where graduated symbols were used to show the quantities, the maximum and the minimum size of the symbols were dependent on the size of the blocks inside the city. As it was mentioned before the sizes of the blocks were showing a great variety and therefore could not be too much difference generated in the size of the symbols, because the most crime are usually occurs in the inner cities where blocks are relatively small.

3. RESULTS

The results of the overall performance of each participant can be seen on Fig.3. Investigating the most simple statistical values of the two data files, it is evident there are quite a big similarity between them. Concerning mean values in case of MAP1 it is 68, 9% in the case of MAP2 it is 71, 1 %, also the values of standard deviations are quite close to each other 24,43 in case of MAP1 and 24,46 in case of MAP2.

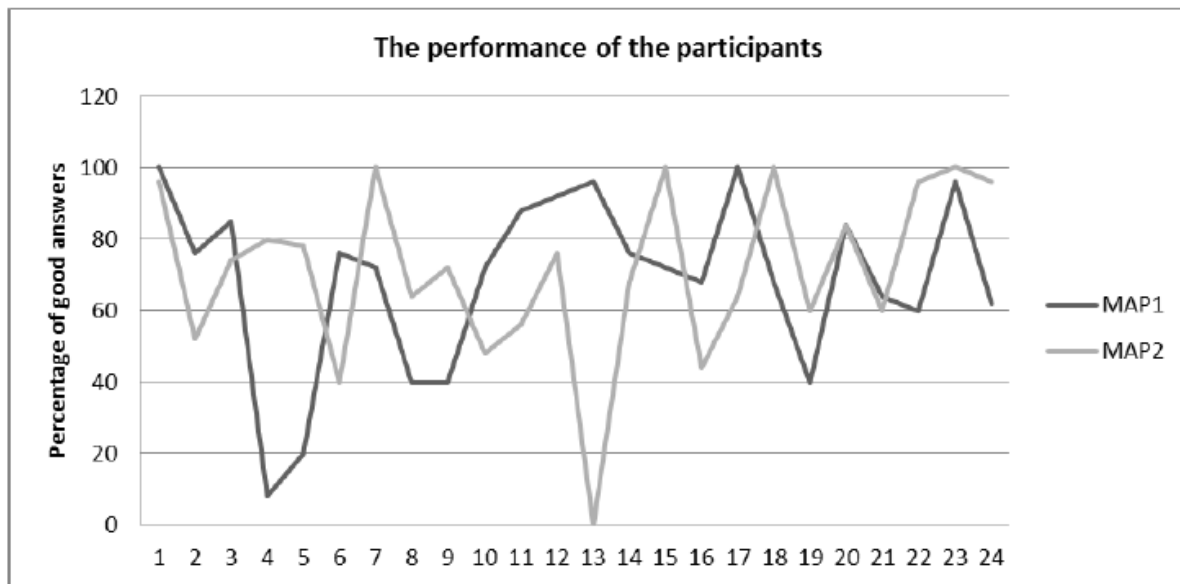


Fig. 3. Comparison of the overall results of the test participants

If we analyse in detailed both results we can see that in case of MAP2 there were 7 person whose solution were above 95%, although in case of MAP1 only 4 of them were bale to reach this result. Analysing the personal performance of the test persons the result is very interesting beacuse it shows that only 3 person were able to fulfill both task at the same level, which means that only 3 person were able to produce the same results in both task the others made the task with different effectiveness, almost half of them were more succesful with graduated colors method, the others were more efficient with graduated symbols method.

If analysing the effectiveness of the test participants with defining the different categories, it can be seen that MAP1 proved to be a little bit more effective in the case of small quantities (Fig. 4.), on the contrary in case of high values of crime graduated symbol methods (MAP2) could be more helpful for analysing the map for the participants

For the participants the task of identifying small values first and second categories on the maps proved to be the more easiest task. As we can see from Fig. 4., the higher the values on the map the lowest the performance of the test participants were.

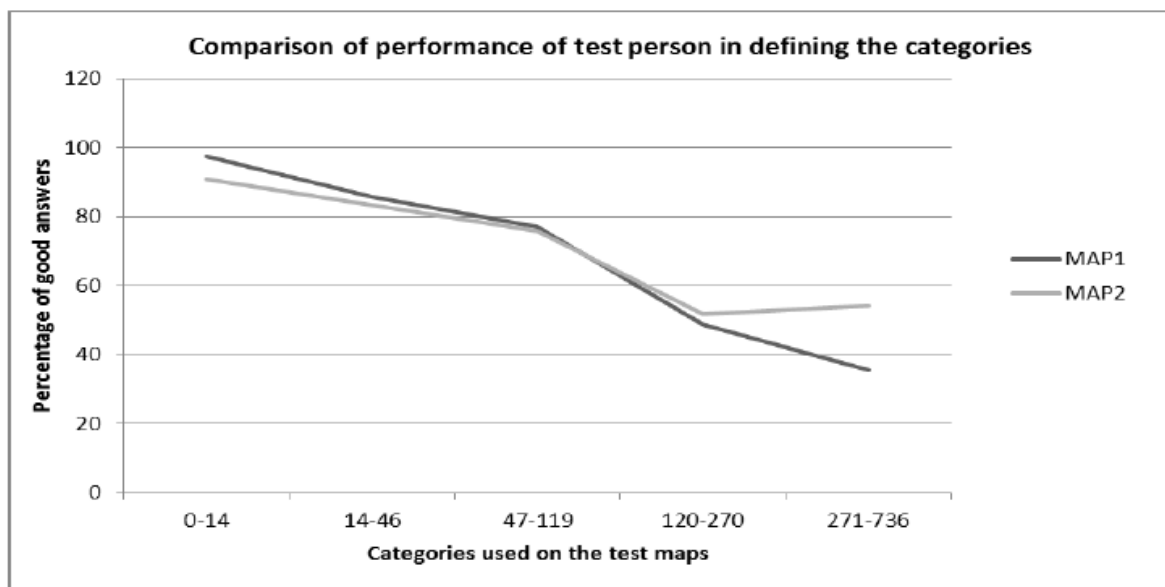


Fig. 4. Overall results of the identification of different categories on the test maps.

4. CONCLUSIONS

The results of test identified some essential problems in visualising crime data. As analysing the result of the experiment it can be clearly seen that with higher values (with more crimes) it was more difficult to identify the categories on maps although in this case, from the two tested methods, graduated symbols proved to be more effective. The results indicates that the combination of other visualisation method with the tested ones can be a good solution in visualising crime data on blocks in the cities.

5. ACKNOWLEDGMENTS

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THE BASIC PATTERNS OF DRUG USE ARE IN SOME PARTS OF THE WORLD AND THE POSSIBLE CAUSES OF DIFFERENCES

Abstract

Drug problem is an international phenomenon. There is no continent or country that is not affected. However, there are differences. The drug situation in Europe is different from that in the US. from the USA to South America. The reasons for the differences include geographical, sociological, economical and other reasons. There is an economic reason, for example, why new types of drugs are a major concern in Central and Eastern Europe (Cvorovic – Vári, 2019). It is clear that in Western Europe, the lower sections of society also have access to classical drugs. Nor is it a coincidence that the drug war, fought by military means and claiming tens of thousands of casualties, is taking place in Mexico. On the one hand, they are close to the states of South America, where good quality, cheap cocaine can be obtained with minimal risk of falling. On the other hand, there is the United States next door, the world's largest drug market, which allows for an extraordinary amount of extra profit. In the U.S., global companies are barely restricted by the state. This has allowed large pharmaceutical companies to cause a public health emergency. By promoting and disseminating opium-containing painkillers in large quantities. Advertisements have tried to falsely trivialize the significant, addictive potential of drugs. By directly contributing to this, approx. for the overdose deaths of 50,000 people. Behind drug problems, we always find there the individual's desire to get into another world quickly, and the often greed incompatible with the greed of the traffickers who supply them.

Keywords: drug, crime, drug using, criminal geography

1. Problem raising

Examining differences is particularly interesting to me because it is clear that trends in global space tend to spread unstopably and homogenize cultures. This is evident in the Western world's various phenomena, such as fashion, movies, internet, smartphone, Facebook and Twitter. It is interesting to examine this concerning drugs. This is because there are significant

differences like drug problems in different parts of the world, even though the same drugs are usually available in different parts of the world. What is the reason for the differences? I am looking for an answer to this in connection with each phenomenon.

2. New types of drugs in Hungary

Between 2010-2015 the new types of drugs (new psychoactive substances NPS) caused the biggest problem in Hungary. More than half of the illegal drugs seized were new types of drugs (BSZKI 2015.). This trend was reversed in 2015, and the relative proportion of seized drugs began to resemble those of the 2000's, indicating the dominance of marijuana and the growing presence of classic drugs (Mátyás et al. 2020, Mátyás 2020). We have concluded that today only the poorest and the most seriously addicted are consuming new drugs. Initially, the mass consumption of new drugs was observed in Budapest's segregates, but this slowly spread to the most deprived areas of the country. In these areas, research has measured 50% participation among the 10–15-year-old population (Szécsi-Sik 2016.). Knowing the statistical data, we can state that the previously sharp regional differences in drug use have now disappeared in Hungary. In certain drugs (e.g. marijuana), the former strong male dominance also decreased strongly (Tihanyi et al. 2020).

The interesting question from a geographical point of view is why new types of drugs are a problem in Central and Eastern Europe. The question can also be asked that although these agents appeared in Western Europe, they did not gain ground. Not so in Romania, Bulgaria, and Hungary. Financial reasons mainly explain this. The price of a gram of marijuana or speed, a piece of ecstasy pill has been around ten euros since 2009 (European Drugs Report, 2019). This amount is affordable for even the poorest in Western Europe, even the homeless. It is no coincidence that even within Eastern Europe, the users are the inhabitants of poor (mainly Roma) settlements, segregates, marginalized settlements, who are characterized by deep poverty, state transfers, under-education, and poor physical and mental health. Drug use for them is not about seeking pleasure, only about escaping.⁸ This is called intoxication. New psychoactive substances further complicate the life prospects of these already difficult people.

3. Cocaine explosion in Western Europe

In 2017, four million Europeans consumed cocaine, a new record, but experts say it is still far from peaking. Sewage analysis is used to search for drug residues. This shows that, for example,

⁸ People living in deep poverty live in large numbers in Hungary due to lack of cities and precarious attractions rural areas, most of which are located in border regions (Bujdosó 2004).

Berliners or Dortmunds used exactly twice as much cocaine on an average weekend in 2018 as in 2014. In Hamburg, six tonnes of cocaine were found in one seizure. Six to six million containers arrive at the city's port each year. Authorities do not find ninety-five percent of drugs. The cocaine market has a turnover of € 300 billion a year in the UK, the purity of the substance on the market has improved by 28 percent, and the price has fallen by 5 percent, making it more affordable. In the UK, cocaine use has doubled in 5 years, with fifty thousand couriers employed by the business. The cocaine problem's exacerbation may be because the amount of cocaine produced in Colombia quadrupled to 900 tonnes between 2012 and 2017 (Szente et al. 2019.) On the other hand, society is based on success, self-optimization and selfishness. Simultaneously, its impact on the consumer does not seem so devastating, even though only Berlin dies in it every year. In Hungary, drug-related assets account for an increasing share of the Asset Recovery Authority's activities, which suggests that drug dealers handle a huge amount of cash (Nagy-Vári 2020).

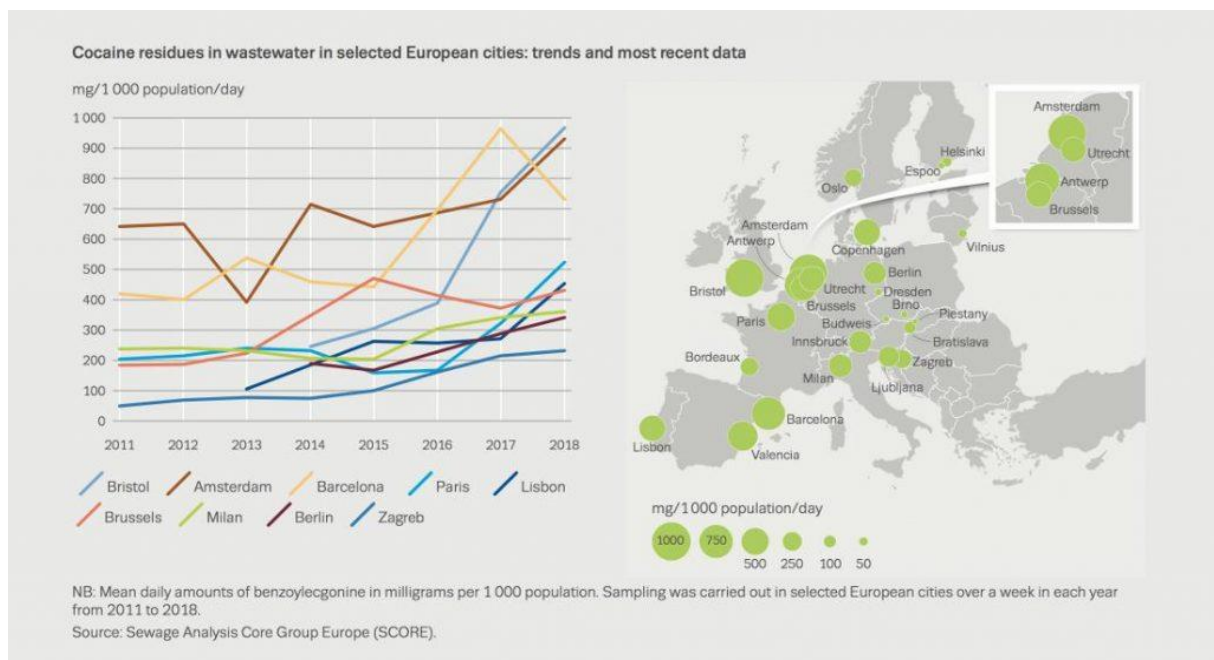


Figure 1: Changes in the cocaine content of wastewater from some large European cities between 2011-18.

Source: European Drugs Report 2018.

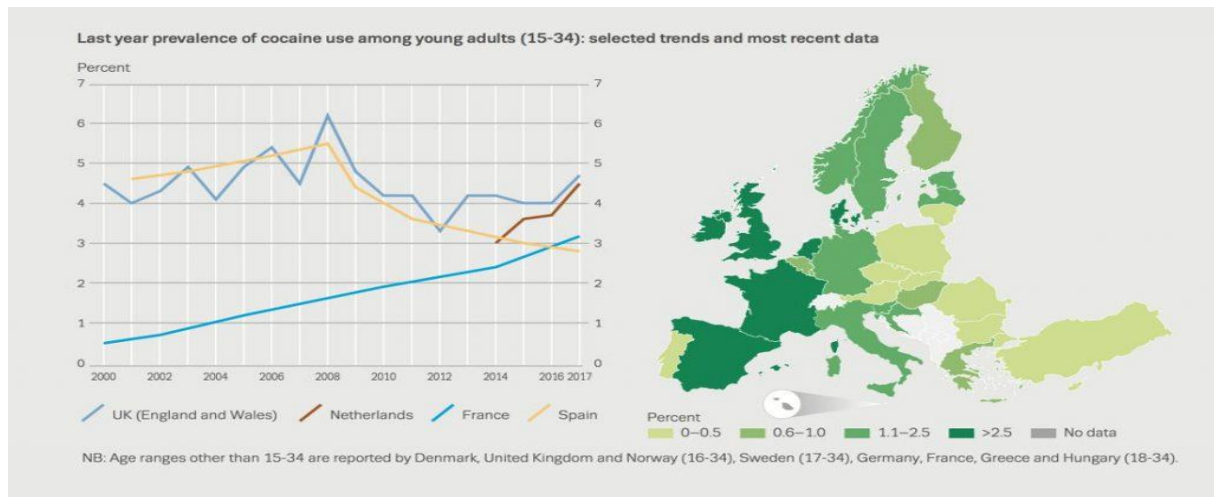


Figure 2: Incidence of cocaine use among young adults (15–34) in the UK, the Netherlands, France and Spain

Source: European Drugs Report 2018

4. Marijuana legalization in the US

In the United States, it is a criminal offense under federal law to use, sell and possess cannabis. In contrast, most member states have decriminalized the use of cannabis for leisure or medical purposes due to a referendum. Legal conflicts are difficult to resolve, as federal regulation is considered to be higher than national law. On the other hand, the legalization of member states is based on a referendum, which means a stronger democratic mandate than a federal law passed by the institutions of representative democracy.

As a result of the regulation, huge production, storage and transportation capacities have developed to serve American consumers. Most of the most promising startups were interested in the marijuana business. The process has now led to the phenomenon of overproduction. Today, there is an illegal market for marijuana produced legally but extends beyond the U.S. drug market's authorized quota (Word Drug Report 2019).

Why did this situation occur in the US? The United States has the largest solvent consumer population in the world, for almost all drugs. Thus, after the weakening of drug cartels in Colombia, one of the main hubs of the drug trade emerged in Mexico, precisely because of the common border with the United States. On the other hand, the federal-state system is special. However, this is not even so far from the domestic situation. The law of the Union is also higher than the Hungarian (Member State) regulation. A Hungarian judge must not apply domestic law that is contrary to EU regulations.

4.1. Opioid problem in the US

As can be seen from the figures, one of the biggest public health problems in the U.S. today is caused by prescription opioid painkillers, in addition to the Covid-19 epidemic. These drugs currently cause 61% of drug overdoses. Millions of Americans suffer from pain and doctors often prescribe opioids to treat their condition. However, the dangers of prescription drug abuse, opioid use disorders, and overdose are a growing problem in the United States.

Since the 1990s, when the number of opioids prescribed to patients began to increase, the overdose of prescription opioids and associated mortality have also increased. However, the number of citizens suffering from pain has not decreased in parallel.

Between 1999 and 2017, nearly 218,000 people died in the United States from prescription opioid overdoses. Overdose deaths with prescription opioids were five times higher in 2017 than in 1999 (Wonder 2016).

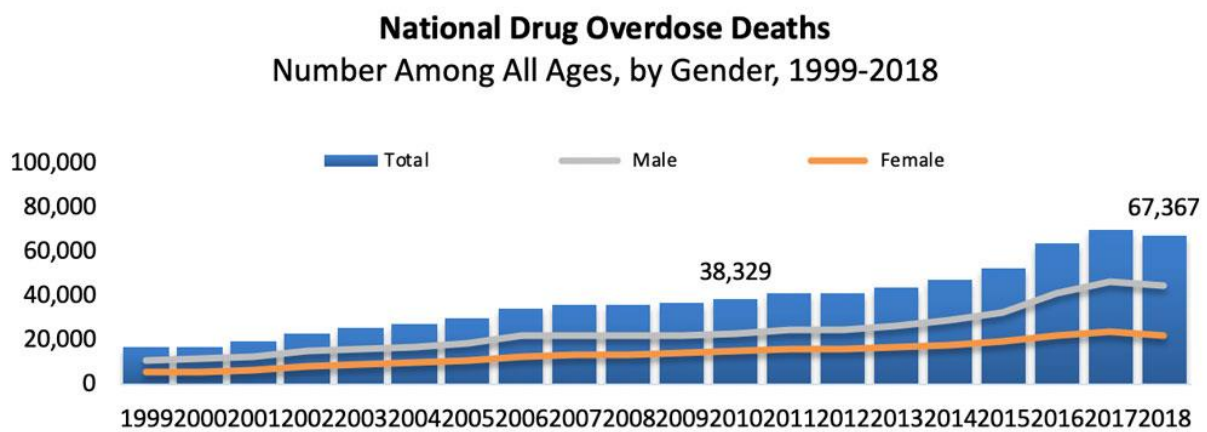


Figure 3: Total drug overdoses in the US
Source: European Drugs Report 2018

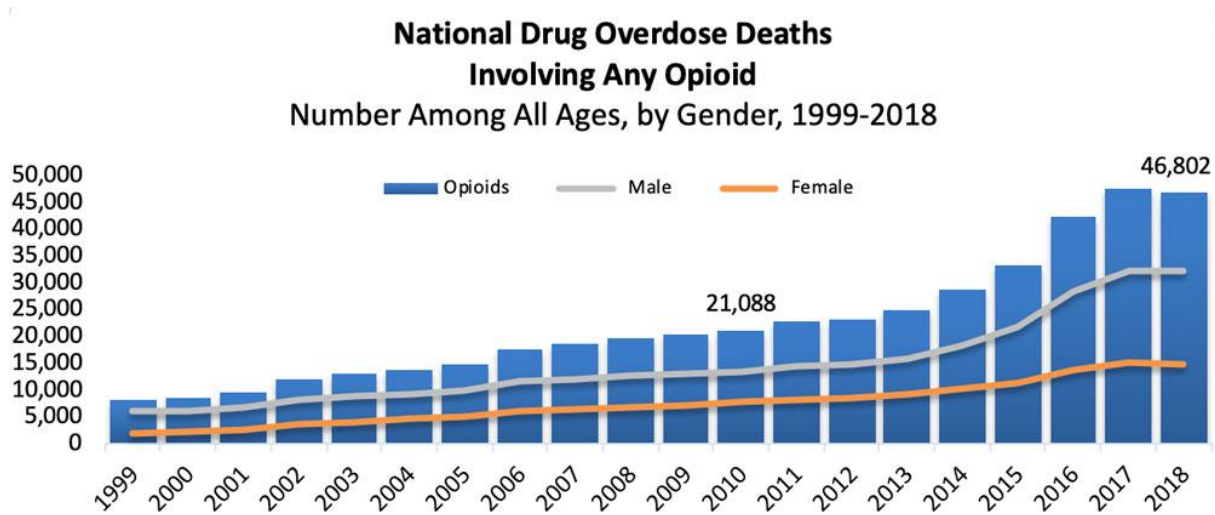


Figure 4: All opioid-related drug overdoses in the US by gender

Source: <http://wonder.cdc.gov>.

In August 2017, President Donald Trump officially announced that he would classify the worsening epidemic of opioid overdose in the United States as a national emergency (Goodnough 2017). The main concern is with fentanyl-containing painkillers. Fentanyl is a synthetic opioid that is fifty times more potent than its related heroin.

A decade ago, NGO's monitoring American hospitals expressed concern that doctors don't care enough about treating patients' pain. Health has been thought to remedy this problem with more frequent use of painkillers, and since ibuprofen, which is still widely used today, was not very popular in the early 2000s, opioids were chosen.

Patients discharged from hospitals should complete a satisfaction questionnaire that asks if their pain has been treated appropriately. Because patient satisfaction contributes to hospital funding, it also provides an incentive for physicians to prescribe painkillers. This is problematic simply because the feeling of pain is subjective, so it isn't easy to measure. Later, in vain, one study showed no link between satisfaction and prescribed painkillers; another said that 71 percent of doctors still prescribe the drug because of administrative pressure.

Of course, pharmaceutical companies have also added their own: they have supported demand with a huge marketing campaign, often misleading. Purdue Pharma also paid a 600 million \$ fine in 2007 after it was revealed that studies had been flagged to prove the safety of opioids written by scientists they funded.

The use of legal opioids also jumped nicely: it tripled in the 1990s, while four times as many overdose deaths were recorded. And Americans, who make up just five percent of the world's population, are responsible for eighty percent of global legal opioid use. Pain relief is, of course, an important goal, and opioid use can be legitimate, but primarily in more severe acute cases

(or end-stage patients) rather than long-term treatment of chronic pain or minor situations such as a tooth extraction. Moreover, there is no conclusive evidence that opioids are effective at all against chronic pain. However, it has been shown to pose serious risks.

On the one hand, they stimulate dopamine production, which causes euphoria, making them highly addictive. On the other hand, they cause respiratory depression, and in the event of an overdose, they may stop breathing completely. However, it is relatively easy to overdose them accidentally.

The most commonly prescribed opioid-containing painkillers are Vicodin and Oxycontin. The addictive effects of Vicodin are well known from the series *Dokor House* (House M.D.), something these agents were also involved in Prince's 2014 death (Faust 2016.).

Besides the illegal use of fentanyl is a huge problem. Most fentanyl laboratories operate in China. Why did this opioid crisis erupt in the US? In the U.S., giants' power (Google, Facebook, Amazon, etc....) seems to be at least equal to that of federal and state governments. Presumably, this is necessary to continue for many years a business model that has caused the overdose deaths of hundreds of thousands of Americans, with impunity to the end.

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Abstracts of the 1st Criminal Geography Conference of the Hungarian Association of Police Science

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SERVICE PLACEMENT AND HOUSING CONDITIONS OF THE BUDAPEST POLICE STAFF FROM THE 1880S TO THE 1930S

Roland Perényi's book dealing with the social history of crime in Budapest, published in 2012, can be considered the first modern processing of the history of crime in Hungary (Perényi 2012). In a separate chapter, this book attempts to spatially localize crime in Budapest in the age of dualism, and to describe the work of the “monitoring, prevention, and discovery” police and the social map of the ever-expanding city. An important aspect in the analysis of contemporary criminal geographic conditions is the presence or absence of a police presence and the location of built institutions of law enforcement, captains and guard rooms in urban space. The starting point of the present study is that, in parallel with the geography of crime, in addition to the spatial analysis of crime, the subject of the study may also be the research of historical sources on the housing conditions of police buildings and police officers. An important point for the adequate living conditions of the Budapest police, as well as the retention power of the police, was housing, which could have a significant impact on the private living space and disciplinary conditions of the police staff, changes in police numbers and criminal investigation and prosecution.

Keywords: police, law enforcement history, police housing project, police building estate

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CHANGES IN THE SPATIAL DISTRIBUTION OF BICYCLE ACCIDENTS IN DOWNTOWN BUDAPEST

Several studies have already mentioned that geographic methods of crime are also suitable for the analysis of traffic accidents and crime. However, theoretical assumption was not followed by practical work, so like many theoretical research topics, it was stuck only at the level of theory. Present study examines the spatial location of bicycle traffic accidents in the capital and

on the Grand Boulevard. It tries to shed light on the laws that can help to find out the cause of bicycle traffic accidents and reduce the number of accidents in the area of competence of the Budapest Police Headquarters.

Keywords: criminal geography, traffic, bicycle, traffic accident

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ORGANISED CRIME AND CRIMINAL GEOGRAPHY

Organized crime was already present in Hungary before the change of regime, but the turn of 1989 gave impetus to domestic and international organized crime groups. It was then when borders were opened, and shortly before that, Hungarian citizens received a world passport with which they could travel freely around the world. The strong increase in organized crime was due to the lack of legislation in the vicinity of the regime change, the political and economic chaos caused by the transformation, the personal shortcomings of the police and the large number of foreigners flowing into the country. There are a number of difficulties in investigating organized crime using topographical methods. Related crime geographic sources usually state that it is not possible to geographically investigate the area, partly because the data is confidential and partly because there are few files related to organized crime.

During the research launched by the Internal Security Fund (Belső Biztonsági Alap), 60 of the Hungarian organized crime files were made available to researchers, so it was possible to examine the structure, structure and geographical characteristics of organized crime from several aspects (including the geography of crime). In the course of the research, a number of scientific findings could be made, which can later be successfully adapted during practical law enforcement work.

Keywords: organized crime, criminal geography, law enforcement, security

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EXAMINATION OF FEAR OF CRIME IN SEVERAL SETTLEMENTS

Fear of crime is a complex process, often not in line with crime itself. It is sometimes influenced by other environmental factors, thus creating fear in the population. In the present study, we examined fears of crime and their causes in seven different cities and municipalities. The

primary data collection was in the form of online questionnaires, which were then processed with various GIS software (ArcGIS, GeoDa). We then processed police statistics related to registered crimes committed. Finally, we compared questionnaires and police data using correlation studies.

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ABOUT THE FIRST HUNGARIAN CRIMINAL GEOGRAPHICAL WORK. BÉLA FÖLDES: STATISTICS OF CRIME

More than hundred years ago, Béla Földes was published in 1889: “Statistics of Crime”. The collection of criminal statistics, has been published in the XVII. century, but the work made about it with scientific sophistication is connected to the name of Béla Földes, which I intend to present during the lecture, which is still untapped in the history of law enforcement. For a long time we thought that the idea and dissemination of criminal statistics was the privilege of the “West”, but after processing the work of Béla Földes, we now know that they have been dealing with the topic in Hungary for more than 130 years. The work of Béla Földes was made possible by the entry into force of the Criminal Code in 1881, which started the regular collection of criminal statistics in Hungary. One of the initiators and implementers of this process is Béla Földes (professor at the University of Budapest), whose statistical work spanned about seventy years, from the early years of dualism to the outbreak of World War II. Béla Földes' scientific activity covered almost all areas of statistics, including criminal statistics. He is the instigator of moral statistics in Hungary, within the framework of which he dealt with the issues of crime, prostitution, illegal births and alcoholism. As a result of the work of this researcher, one of his main works, “Crime Statistics,” was born in 1889, which can help to analyze the crime situation to this day.

Keywords: law enforcement, criminal geography, history of law enforcement, Béla Földes

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FORMATION OF THE TERRITORIAL STRUCTURE OF PUBLIC ORDER BODIES

After World War II, the country was in a bad situation. In this situation, the country's public security had to be restored. After the transition period, the different structure of metropolitan and rural police has become permanent. The organizational structure in which the criminal and public security organs operated in isolation was also established. All of these organizational solutions were a barrier to successful policing. The “area management system” developed to remedy the problems and replace the rural form of service provision (“portya”) has partially lived up to its promise. Hoping for further results, in 1953, following the example of Soviet militias, the construction of a “quasi-local police” system began. In February 1954, local police were introduced on a pilot basis in two areas of the country. The new form of service was expected to bridge the gap between criminal and public security policing, to establish better relations with the population, to better organize the work of auxiliary police and to strengthen public security. Of course, the implementation of reforms was not smooth. It was a challenge to designate areas, select the right stock, and provide resources. Nevertheless, the district trustee form was consolidated in the following years. After a resumption following the events of 1956, it has become an integral part of public security policing and is still one of its strongest pillars to this day.

Keywords: public security, law enforcement, crime, criminal geography

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THE EU’S CONDITIONALITY PRINCIPLE AND THE IMPORTANCE OF ENHANCING CROSS-BORDER COOPERATION IN THE FIGHT AGAINST ORGANIZED CRIME AT THE EU’S EASTERN BORDER

The successive enlargements from 2004 and 2007 of the EU had extended its borders, leading not simply to the creation of a new and longer Eastern borders, but also to a new border regime in the form of the European Neighbourhood Policy. All these geopolitical transformations from the last two decades set an Eastern frontier for the EU and with this Eastern frontier the Community got closer to the so called risky, troubled areas, reaching the “Wild East.” In the Western eyes the former communist/Soviet space is being perceived as a region generator of

threats and challenges of instability, such as: illegal migration, organized crime, ideological radicalism, religious violence, human-, arms- and weapons trafficking, public health concerns, frozen conflicts, cyber crime, territorial disputes etc. With the enlargements the EU became a close neighbour of criminal groups, gangs originating from the “Wild East”, which by undertaking criminal activities have become a serious threat and risk to the European welfare state system, leading to a heavy securitization of EU external borders. In order to tackle the various forms of organised crime, heavy securitization measures are not enough, and proactive cross-border cooperation is needed with the countries from the close vicinity. Thus, in the current research we target to evaluate the efficiency of cross-border cooperation in the fight against organised crime between the EU and the EaP countries. We propose a dual approach, as within these lines not just the performance and level of commitment of the EaP countries in the fight against organised crime shall be measured through the inspection of their Association and Implementation respectively Progress Reports, but also the efficiency of EU initiatives in relation with the EaP countries in the field, like its civilian missions launched under the aegis of CSDP, such as EUBAM and EUAM and other Community projects like the EU Action against Drugs and Organised Crime (EU-ACT) and the Eastern Partnership Police Cooperation Programme.

Keywords: EUBAM, EUAM, EU Action against Drugs and Organised Crime (EU-ACT), police cooperation, cross-border crime

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NEW METHOD TO MEASURE CRIME: SHIFTING THE FOCUS

FROM SIMPLE COUNTING TO WEIGHTING

To evaluate the public safety of a certain spatial area, indicators of criminal situation and the investigation performance indicators are applied, which provide information about the work of the law enforcement authorities. The criminal situation is described by the number of known crimes, number of high-profile crimes, known crimes committed in public space and crime rate per 100 000 residents. However, it leads to several research questions: do the amount of crimes reflect properly the public safety? Does the current crime statistics provide an appropriate basis for the police for decision-making? Do all types of offences have the same effect on society?

The Article focuses on a new trend of assessing criminality: it demonstrates the concept of crime harm indexes. In addition, it provides an overview about the existing ones. The Article could be interpreted as the first steps in the creation of Hungarian Crime Harm Index (HU-CHI).

Keywords: crime harm index, crime statistics, HU-CHI, methodology

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THE METHOD OF RESEARCHING CRIMINAL GEOGRAPHY IS THE TRANSPORTATION OF ILLEGAL PEOPLE (HUMAN TRAFFIC)

Migration has two faces, immigration and emigration, which can be extended to the feature of ‘migration’, ie transit migration, which is essentially linked to organized crime and illegal, irregular activity. In Hungary, mass immigration has been a central issue since 2015, placing a heavy burden on public service organizations, such as the administration, law enforcement organizations and the army, especially with the southern border patrolling along the temporary security border. It is therefore important for the police and national security to reduce the burden, to identify the geographical areas and areas where illegal migration is typically directed, and to identify possible future areas and directions as well as methods. Refugees and migrants arriving in Europe will then enter the European Union's Schengen area, ie crossing the EU's borders, often not on the legal route, but without the knowledge of the authorities, bypassing them. The traditional dichotomous division, i.e., the twin of illegal and irregular migration, the scientific community pairs human trafficking with illegal, while human smuggling with irregular, or, as in the Western scientific literature, human trafficking. In my study, I first clarify these concepts, after defining migration, then I define the direction of criminal geography used in writing, and then I list the categories of Hungarian criminal law. The main direction of the study is to identify the phenomenon of human trafficking with the scientific research tools of criminal geography and to predict the trends. At the end of the study, I present one predictive method based on computer data and artificial intelligence that predicts the future.

Keywords: criminal geography, human traffic, crime, migration

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GEOGRAPHICAL FACTORS IN SERVICE PLANNING AND ORGANIZATION

There is no doubt that public safety (either objective or subjective) adapted to the structure of the police (local, regional, national level) is affected by the factors of social geography. The existence of an impact on public safety is independent of the point of view from which we examine the issue (population geography, settlement geography, economic geography). The perspective may affect the extent of the impact on public safety in different geographical areas. In order to ensure the effective, service-oriented operation of the police it is essential to take these factors into account and to keep them evident in the planning and organization of the service and, of course, in the accompanying analytical and evaluation activities that precede and accompany these activities. This finding is to some extent true for all branches of the police service however, it is of the utmost importance in connection with the public area service (patrol and guard service, neighborhood police officers' service), which mainly affects the public order service branch. In order to maintain and improve public safety, the circumstances that affect it must be known and changed and as such, the range of socio-geographical factors also needs to be prioritized, because their consideration contributes greatly to the effective planning and organization of the service. Thus, from the point of view of police service, guaranteeing public safety, it is by no means negligible that a police force is located in a border area or depth area, it mainly encompasses a metropolitan environment or a farm world, what is the size of the population in its area of competence, what is its composition. what is the built environment of the settlements, what is characteristic of the economics of the area.

Keywords: service planning, service organization, geographical factors

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THE BASIC PATTERNS OF DRUG USE ARE IN SOME PARTS OF THE WORLD AND THE POSSIBLE CAUSES OF DIFFERENCES

The drug problem is an international phenomenon. There is no continent or country that is not affected. However, there are differences. The drug situation in Europe is different from that in the US. From the USA to South America. The reasons for the differences include geographical,

sociological, economic and other reasons. There is an economic reason, for example, why new types of drugs are a major concern in Central and Eastern Europe. It is clear that in Western Europe, the lower sections of society also have access to classical drugs. Nor is it a coincidence that the drug war, fought by military means and claiming tens of thousands of casualties, is taking place in Mexico. On the one hand, they are close to the states of South America, where good quality, cheap cocaine can be obtained with minimal risk of falling. On the other hand, there is the United States next door, the world's largest drug market, which allows for an extraordinary amount of extra profit. In the U.S., global companies are barely restricted by the state. This has allowed large pharmaceutical companies to cause a public health emergency. By promoting and disseminating opium-containing painkillers in large quantities. Advertisements have tried to falsely trivialize the significant, addictive potential of drugs. By directly contributing to this, approx. For the overdose deaths of 50,000 people. Behind drug problems, we always find there the individual's desire to get into another world quickly, and the often greed incompatible with the greed of the traffickers who supply them.

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SECURITY MATRIX IN AN ACTUAL STATE

This paper examines the condition of Austria with the application of the method of security matrix. With this method, the writer will make a comparison between the security conditions before the COVID-19 pandemic and the conditions after the pandemic. First, the writer will introduce the method, then in the second part of this paper, the writer will seek responses for the possible problematic impacts the COVID-19 pandemic can have on the Austrian security conditions, relying on open data and information. Moreover, the writer will deal with the question of what kind of impact does the two time period have on the condition of criminal geography.

Keywords: Austria, security conditions, descriptive matrix, analysis, COVID-19 pandemic, criminal geography

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