
Convection and Radiation as Important Metropolitan Functions in a Penitential System

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Abstract:

Purpose: Functionally coherent metropolitan areas with a high degree of urbanization generate an occurrence of significant metropolitan functions, as well as functional and economic connections. A special part of the function of endogenous metropolis is the prison system. Prison system is a term used to describe all detention facilities and their organization or the system of imprisonment in a given country. Due to the nature of the article, the purpose was a general analysis of the state of the prison system in the Silesian-Zagłębie metropolis in terms of functions related to the physical flow of persons and information.

Design/Methodology/Approach: Flows in space implemented in metropolitan areas are primarily, convection, conduction, and radiation. The prison system in Poland is also an important element of the metropolitan structure. In the field of prison systems, the metropolis performs the functions of convection and radiation.

Findings: The most important problems related to the implementation of metropolitan functions in the field of prison, as part of the implemented convection and radiation functions, is overcrowding in prisons, difficulties in transporting prisoners and the lack of alternative solutions.

Practical Implications: A suggestion could be to include a prisoner transport system in the metropolitan transportation system, which would fulfill the functions of both convection and radiation. Information on the state of fullness of prisons should be provided on an ongoing basis as part of the radiation function, which, perhaps, would allow for the leveling of the burden in prisons within the metropolis.

Originality/value: The scope of the research concerned the analysis of the current state of prisoner transport and the quantity of prison places in the region. A suggestion about including of a prisoner transport system in the metropolitan transportation system has been recommended. The field of prison systems the metropolis was performed in the functions of convection and radiation.

Keywords: Metropolis, convection, conduction, radiation, prison system.

JEL codes: M14, M38.

Paper type: Research article.

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1. Introduction

In the modern world, in developed countries, contacts between regions occur through their metropolitan areas, which remain in communication and institutional relationships with one another. According to the Act of 2003, the metropolitan area is the area of a big city and its functionally related immediate environment, established in the national spatial development concept (NSDC) (Journal of Laws of 2018, item 1945).

The metropolitan area is a functionally coherent metropolitan system of many settlement units and areas with a high degree of urbanization, whose main feature is the occurrence of metropolitan functions, as well as functional and economic connections (Markowski and Marszał, 2006). The metropolitan area is the main, multifunctional center of a given region, which focus on higher-level functions: economic, scientific and cultural (Śleszyński, 2013). Metropolization is an urbanization process that differs – in quantitative and qualitative terms – from previous urbanization processes and is characterized by:

- the increase in the role of large urban systems (metropolitan centers) in the modern economy,
- the growing importance of socioeconomic links and flows between distant metropolitan centers – *The External Dimension*,
- the changing shape of the relationship between the metropolitan city (core city) and the surrounding region – *Internal Dimension* (Dąbrowska-Milewska, 2010).

In 2011, the government adopted the National Spatial Development Concept 2030 (Koncepcja Rozwoju Regionalnego, 2012), in which it was acknowledged, that as metropolises can be considered those centers (along with their functional areas), which are centers of economic management at the national level, they have high economic potential (above domestic investment attractiveness), offer a number of higher-order services and perform symbolic functions, are characterized by high external tourist attractiveness, large educational opportunities and creating innovation (extensive higher education, the presence of scientific, as well as research and development units), they have the ability to maintain commercial, scientific, educational and cultural relations with international metropolises and are characterized by high internal and external transport accessibility (Monitor Polski from 2012 item 252).

An important condition of the city's activity is the migration of some of its manufactured products and services out of its area. Functions performed for other areas are exogenous functions, implemented by entities, such as industrial plants producing for the external market, banks servicing enterprises in other cities and regions, stock exchanges, long-distance transport, universities, research institutes and government institutions, whose territorial properties extend beyond the city. To

perform exogenous functions, the city must have properly developed endogenous functions. Entities performing endogenous functions: municipal and housing economy, urban transport, retail trade, services for the public, enterprises maintaining urban greenery (Noworól, 2015).

A special part of the function of endogenous metropolis is the prison system. Prison system is a term used to describe all detention facilities and their organization or the system of imprisonment in a given country. Contemporary legislation often uses the name *prison* instead of the name *detention facility*, and instead of the name *prison system – the penitentiary system* (www.sw.gov.pl). The prison system plays an important role in actions taken to ensure public order and security. It protects the public against perpetrators of crimes in detention facilities and remand facilities.

Due to the nature of the article, the purpose was a general analysis of the state of the prison system in the Silesian-Zagłębie metropolis in terms of functions related to the physical flow of persons and information. The scope of the research concerned the analysis of the current state of prisoner transport and the quantity of prison places in the region.

2. The Penitentiary System in Poland

The Prison Service, reporting to the Minister of Justice (Journal of Laws 2010, No. 79 item), is a uniformed and armed apolitical formation, having its own organizational structure that performs tasks in the field of performing temporary detention and imprisonment, coercive measures resulting in deprivation of liberty and imprisonment in the electronic tagging system. It implements the provisions contained in the European Prison Rules, Standard Minimum Rules for the Treatment of Prisoners and the Convention for the Protection of Human Rights and Fundamental Freedoms, including ensuring, that persons sentenced to imprisonment or those temporarily arrested have access to their rights. It works with other uniformed formations: Police, Fire Brigade, Border Guard, Internal Security Agency, Central Anticorruption Bureau and the Army (Odlanicka-Poczobutt and Semrau, 2019).

The penitentiary system is an important element of the state structure. It contributes to the rule of law and order and increases the sense of security of citizens (Powałko, 2017). Numerous international and national organizations exercise supervision over the correctness, legality of temporary detention and imprisonment by the Prison Service. Control over the authorities in this area is exercised by, The Ombudsman, the Helsinki Foundation for Human Rights, the National Preventive Mechanism and the European Committee for the Prevention of Torture and Inhuman or Degrading Treatment or Punishment (www.sw.gov.pl).

Pursuant to the Criminal Enforcement Code, the execution of the sentence of imprisonment is intended to incite the convicted person's will to cooperate in

shaping their socially required attitude, in particular, the need to comply with the legal order, sense of responsibility and thus refrain from returning to crime (Journal of Laws 1997 No. 67 item 1).

There are 87 detention facilities in Poland and 34 external branches of detention facilities of various types. In total, they have 87,000 prison places. 79,000 people are imprisoned and 40,000 are awaiting imprisonment.

The number of detained prisoners in Poland (data for 2015), compared to selected countries, is presented in Table 1.

Table 1. *Number of detainees in Polish penitentiary facilities*

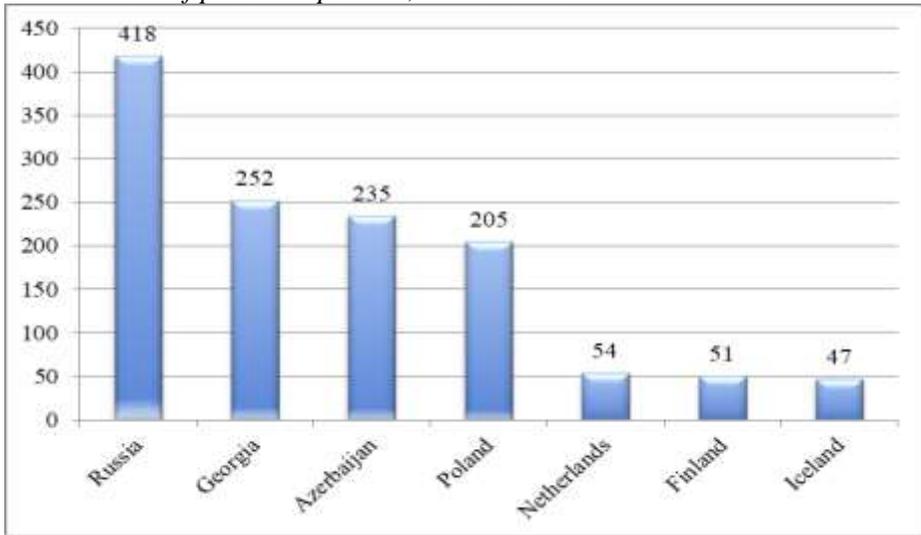
<i>State (population)</i>	<i>State of the Convicted</i>	<i>Capacity of Facilities</i>	<i>Density</i>	<i>Prisoners / 100,000 residents</i>
Lithuania (~3 million)	5,139	7,970	64.5	256.8
Estonia (~1.5 million)	3,026	3,250	93.1	230
Poland (~38 million)	78,994	87,331	90.5	205.2
Spain (~50 million)	66,786	77,895	85.7	143.6
France (~66 million)	77,883	57,516	116.6	118.3
Germany (~80 million)	62,632	76,556	81.8	77.5
Sweden (~10 million)	5,525	6,563	84.2	57.3

Source: „System penitencjarny w Polsce. Współczesne problemy oraz możliwości reformacyjne” by M. Adamczyk. 2015

On the basis of the latest report prepared by the University of Lausanne, based on data from the countries of the Council of Europe, it can be seen that Poland is still among the leading European countries in terms of the number of detainees. In statistics, the leaders are the states of the post-Soviet area. The Council of Europe has published annual prison system data for 40 European countries. The number of prisoners per 100,000 residents is shown in Figure 1.

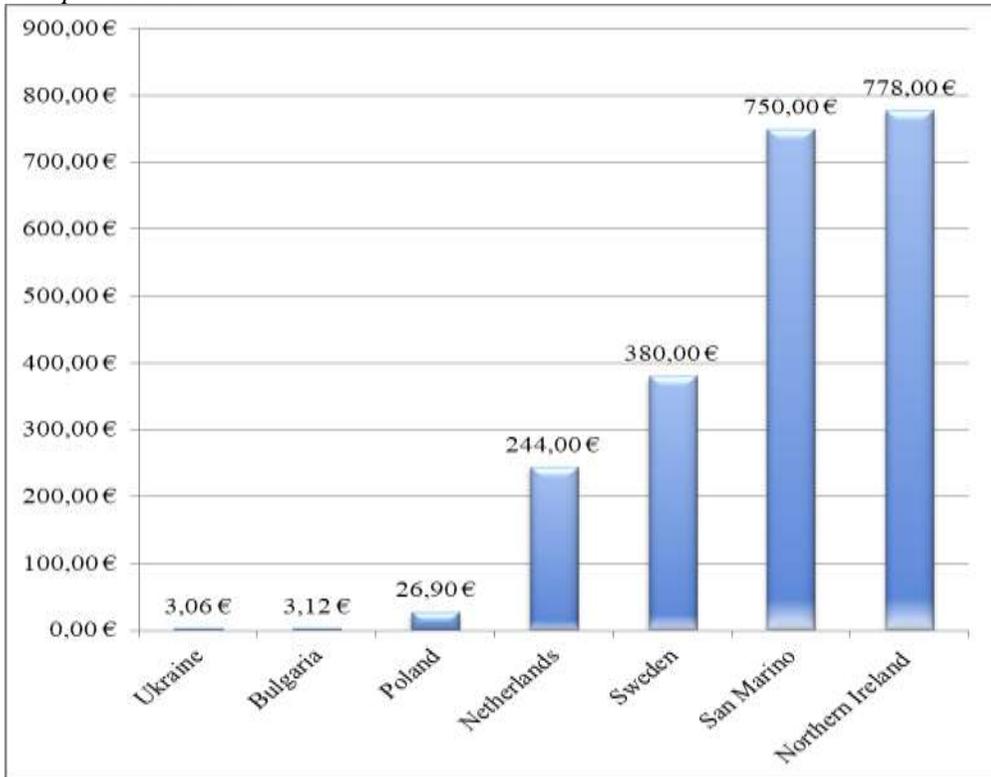
Here, detainees are handled by relatively few prison guards. There is just one per 5.2 prisoners. In the EU, it is only worse in Estonia and Greece. In all of Europe, Northern Macedonia and Russia have the greatest shortage (Słojewska, 2019). Expenditures on maintaining a prisoner is also low in Poland. On average, it costs 26.9 euros a day – it's less than in Western European countries, even taking into account the differences in the purchasing power of money. Comparison of the costs of maintaining one day of a prisoner compared to other European countries is shown in Figure 2.

Figure 1. Number of prisoners per 100,000 residents



Source: Own study.

Figure 2. Comparison of the cost of living one day in prison compared to other European countries



Source: Own study.

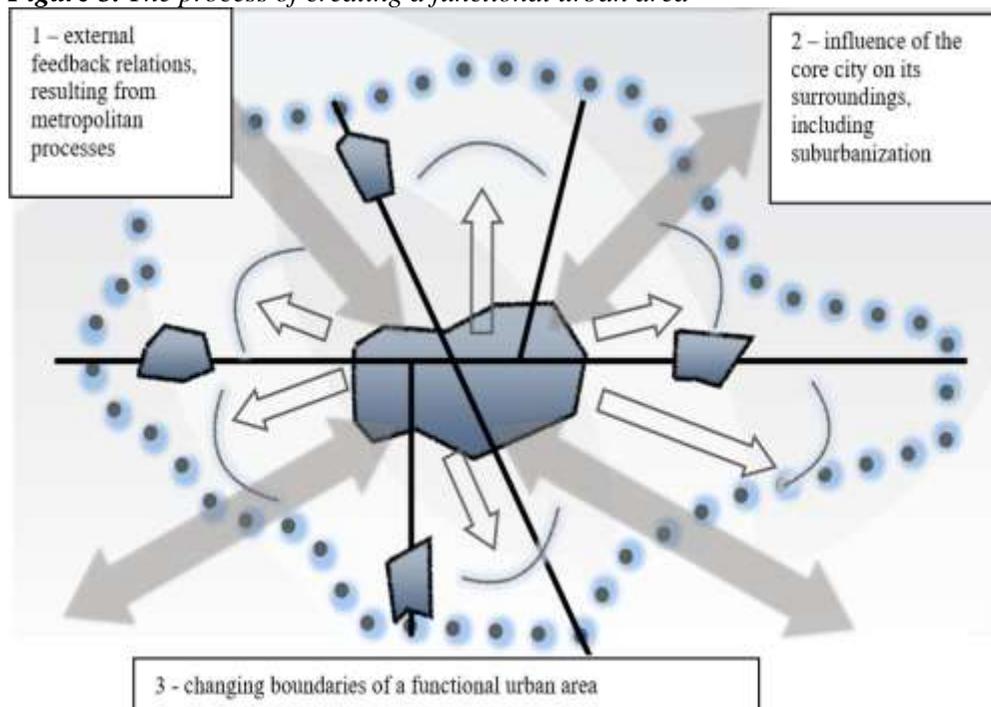
In countries with a large immigrant community, they form a large group of convicts. In Germany 38%, in Sweden 28%. One third of this group are citizens of other EU countries.

The report indicates for which crimes the sentence is served. Poland stands out from the EU in two categories: drug trafficking and road crime. Only 3.3 percent of the convicted in Polish prisons serves sentence for drug trafficking. There are 40 percent in Latvia, and the ratio is double digits in most European countries. There are relatively many convicts for road traffic crimes: 8.3 percent There are more only in Iceland, Latvia, Estonia, Finland and Portugal (Słojewska, 2019).

3. Metropolitan Functions

As a result of mutual relations between metropolitan centers, which includes activities undertaken by political and administrative authorities, economic and social entities, as well as individual actors of changes – the core city affects its surroundings. These impacts are associated with a phenomenon that can be described as the functional occupation of new areas. It is not about expanding administrative boundaries, but about creating formal and informal, organized economic and social relationships that require more and more space (Noworól, 2015). The process of creating a functional urban area is shown in Figure 3.

Figure 3. *The process of creating a functional urban area*



Source: "Usługi publiczne" by A. Noworól. 2015

In metropolitan areas, there are specific patterns of public service provision that have specific features or impassable parameters that can be described or measured. The system of public service standards consists in institutionalized rules and procedures, applicable in a given area for monitoring the parameters of services provided, in relation to the set values of these parameters (standards) and in accordance with the clearly defined purpose of creating this system.

The main factors influencing the improvement of the quality of public services are:

- social demand for a given service:
 - needs related to the level of civilization development,
 - to be disclosed individually in particular territories;
- the objectives of local government authorities:
 - inspirations from inter-territorial exchange,
 - political postulate;
- existing legal and regulatory framework:
 - legal and institutional system of the state (Noworól, 2015).

There is a need for regular evaluation of existing services in terms of citizens' expectations. Flows in space implemented in metropolitan areas are primarily:

- convection – convective flows consist in the physical movement of people or goods;
- conduction – flows that do not require physical movement of people and goods, and the imbalance in interregional exchange is leveled e.g. by loans;
- radiation – information flows / these flows do not have to be leveled, the appearance of information as a result of this flow does not mean its loss in the source region (Kaczmarek and Bul, 2014).

The prison system in Poland is also an important element of the metropolitan structure. In the field of prison systems, the metropolis performs the functions of convection and radiation.

4. The Prison System in Metropolitan Areas

Convection activities are associated with the transport of prisoners in the metropolis. Transporting prisoners in the metropolis is very risky. During execution, dangerous prisoners are temporarily introduced into the community, which increases the risk during contact with civilians (Matusiak, 2013).

Prison services are designed to transport convicts from areas such as court buildings and detention facilities located in city centers of the metropolis to other adapted units. Prison services in such situations always take additional security measures,

including additional escorts conducted by police officers and specially equipped vehicles (Toronto, 1999).

The transport process can take place directly and indirectly. Direct transport is carried out using one means of transport, as opposed to indirect transport, which uses at least two means of transport (Kozłak, 2008).

Direct transport can take a maximum of 3 days. The director of the destination unit receiving transport must immediately inform the district director of exceeding this period. However, if transport arrives from outside the district, they must inform about the situation the Director of the Information and Statistics Office of the Central Board, who is responsible for the task of improving future transport implementations. If there is a need, during transport, for the stay of prisoners in a unit located on the route, the implementation can be carried out in stages. In the event of a forced stop in a unit of the Prison Service, officers are obliged to provide assistance that will allow for further carrying out of transport. If the unit does not have a free escort vehicle at a given moment, it may suspend the entire process for no more than 48 hours (Order No. 29/2015).

Radiation activities are related to the flow of information connected to the functioning of the penitentiary system in the metropolis.

Reception, sending, preparation of prisoners and activities related to full organization, coordination and documentation are carried out using the Noe.NET system throughout the country. In the Prison Service, it is the most important IT system supporting business processes, i.e., processes carried out during permanent imprisonment, temporary detention and the transport of prisoners. The system allows officers taking part in the transport of convicts to get acquainted with the state of transport activities on an ongoing basis (Chilmon, 2018).

Polish remand facilities and prisons are starting to have problems with overcrowding. The population rate of 90% is starting to be alarming. Abuse of rulings in the form of conditional suspension of imprisonment is a phenomenon on a European scale. This level remains within 60%. In Portugal, Sweden or Germany the level does not exceed 20%. Fines in Poland represent only 20% of penalties imposed, while in Great Britain and Portugal the use of this method exceeds 75%. At present, the punishment regime is reversed in relation to most countries (Adamczyk, 2015).

The inefficiency of the Prison Service manifests itself in increasingly frequent adjudication of timely punishments with a fixed period of imprisonment. Currently, this applies to around 40,000 people who lacked space in Prison Service units (Monthly Statistics, www.sw.gov.pl).

The objective of prison in Poland is to isolate prisoners, which greatly affects the main idea of prison, that is social rehabilitation. Return of convicts to crimes at 45% – after serving a sentence – suggests the abnormality of the entire process. The second influence on this is the ratio of the number of detainees in relation to the number of officers. In 2017, the Prison Service employed around 29 thousand officers (Annual Statistics, www.sw.gov.pl). The data shows a result of around 1:3 (officer / prisoners), where, for comparison, in Italy and Slovenia the result is estimated at 1:1.5.

The Prison Service also has insufficient prison space in relation to one detainee, where the level has reached the minimum on the international stage, that is 3 m². Romania and Bulgaria have a prison area of 6 m², and France, despite the overcrowding, adheres to the 9 m² rule for detainees.

Until 2019, prisoners in Polish prisons were imprisoned in 14-15 person cells, which caused constant tension and stress among convicts, and at the same time generated conflicts. To this day, however, 10 person cells are used (Ombudsman, 2019).

Conditions in Polish prisons do not allow for any privacy, in addition, huge communities are created that have a negative impact on the entire social rehabilitation process. There is more and more violence and exposure to demoralization and moral decline.

5. Conclusions and Recommendations

Prisons in the Silesian Province are overcrowded, so firstly, as announced by central prison authorities, new prisons will be created here. The establishment of at least three new detention facilities is foreseen. The authorities of the District Inspectorate of Prison Service in Katowice are looking for a place in the whole region for the construction of new custody centers and prisons.

Buildings for new locations were handed over by the Silesian Province Voivode. Areas of land are being considered in Siemianowice, Katowice, Rybnik and several other places. Of the 17 buildings proposed by the Silesian Province Voivode, 10 have already been rejected. Others are also unlikely to gain approval of the prison authorities, as applicable rigors of the buildings of this type are very high.

Construction of new prisons in Silesia would take place as part of the nationwide program to create 17,000 new places for convicts by 2019. The Ministry of Justice wants to build new prisons, with the plan to hand some of them over into private hands and introduce the so-called electronic tagging system of convicts (Bombor, 2019).

Rybnik is the leader in the efforts to erect a prison building, where several areas of land have been proposed.

The city is counting on such investment, because the prison means several hundred new jobs, also for graduates of social rehabilitation or sociology, who have problems finding employment. It is also an opportunity for local companies supplying food, cleaning products, clothing and other things necessary for the functioning of the facility.

In the Rybnik district, in two prisons – in Jastrzębie Zdrój and Racibórz, which also serves as a remand facility – the overcrowding is one of the highest in Poland. The building has 719 places and 993 people are currently detained – currently occupying all possible places, such as common rooms, some offices and utility rooms, but the situation is still difficult. There are 293 places in Bytom remand center, with 401 detained people; there are 1360 detained per 1070 places in the prison in Jastrzębie-Zdrój. The provision of three square meters of space per person is rarely observed, which is legally what they are entitled to.

Throughout Poland, the Ministry of Justice plans to create over 17,000 new places in prisons by 2019. In Poland, there are 156 prisons, in which approximately 86,000 prisoners are detained, and there are, according to applicable standards, approximately 70,000 places. There are 9,228 convicts in 16 detention facilities in the metropolitan region (per 7,204 places). This is the worst ratio in Poland. A year ago, a new prison in Wojkowice was commissioned, which cost over PLN 16 million, which did not change the situation.

To sum up – the most important problems related to the implementation of metropolitan functions in the field of prison, as part of the implemented convection and radiation functions, is overcrowding in prisons, difficulties in transporting prisoners and the lack of alternative solutions.

A suggestion could be to include a prisoner transport system in the metropolitan transportation system, which would fulfill the functions of both convection and radiation. Information on the state of fullness of prisons should be provided on an ongoing basis as part of the radiation function, which, perhaps, would allow for the leveling of the burden in prisons within the metropolis.

References:

- Adamczyk, M. 2015. System penitencjarny w Polsce. Współczesne problemy oraz możliwości reformacyjne. *Horyzonty Bezpieczeństwa*, No. 1(1).
- Bombor, J. 2019. Nowe więzienia w województwie śląskim. Źródło: <https://wisla.naszemiasto.pl/nowe-wiezienia-w-województwie-slaskim/ar/c1-6670259>.
- Chilmon, E. 2018. *Rozwój systemów IT Służby Więziennej. IT w administracji*. Wrocław.
- Dąbrowska-Milewska, G. 2010. Standardy urbanistyczne dla terenów mieszkaniowych – wybrane zagadnienia. *Architecture et artibus*, No. 1/2010.
- Kaczmarek, T., Bul, R. 2014. Statystyka obszarów metropolitalnych – stan i potrzeby. *Biuletyn KPZK PAN*, No. 255/2014.

- Koncepcja Przestrzennego Zagospodarowania Kraju 2030. 2012. Warszawa: Ministerstwo Koncepcja Rozwoju Regionalnego.
- Koźlak, A. 2008. *Ekonomika transportu. Teoria i praktyka gospodarcza*. Gdańsk: Wydawnictwo UG.
- Markowski, T., Marszał, T. 2006. *Metropolie, obszary metropolitalne, metropolizacja – Problemy i pojęcia podstawowe*. Warszawa: Komitet Przestrzennego Zagospodarowania Kraju PAN.
- Matusiak, M. 2013. *Standardy usług publicznych w zakresie edukacji, kultury, pomocy społecznej, usług komunalnych i komunikacyjnych*. PRI.
- Noworól, A. 2015. *Usługi publiczne. EEA Grants, Norway Grants, UJ Kraków*, prezentacja ppt.
- Powałko, O. 2017. *System więziennictwa w Polsce a bezpieczeństwo wewnętrzne. Obronność Zeszyty Naukowe 2(22)/2017*.
- Prisons and Probation Ombudsman 2019 to 2020 annual report. ISBN 978-1-5286-2178-6, CP-301, www.gov.uk/government/publications/prisons-and-probation-ombudsman-2019-to-2020-annual-report.
- Odlanicka-Poczobutt, M., Semrau, J. 2019. *Analysis of interferences in the transport of prisoners with the application of Ishikawa Diagram*. Scientific Papers of Silesian University of Technology, Organization and Management Series, No. 139.
- Rzecznik Praw Obywatelskich. <https://www.rpo.gov.pl/pl/content/cele-ponad-10-osobowe-do-likwidacji-sluzba-wiezienna-przyznaje-racje-rpo>.
- Służba Więzienna. <https://www.sw.gov.pl/strona/zadania-i-uprawnienia-sw>.
- Słojewska, A. 2019. *Więzienia: Polska w europejskiej czołówce pod względem liczby osadzonych*. <https://www.rp.pl/Prawo-karne/304039909.html>.
- Śleszyński, P. (red.). 2013. *Wskaźniki zagospodarowania i ładu przestrzennego w gminach*. Biuletyn KPZK PAN, No. 252/2013.
- Toronto Police Service, 1999. *Annual Report Prisoner Transportation*. www.web.archive.org/web/20110103030722/http://www.torontopolice.on.ca/publications/files/reports/1999annualreport/prisonertransport.html.
- Uchwała Nr 239 Rady Ministrów z dnia 13 grudnia 2011 r. ws. przyjęcia Koncepcji Przestrzennego Zagospodarowania Kraju 2030, M.P. z 2012 r. poz. 252.
- Ustawa z dnia 6 czerwca 1997 r. Kodeks Karny Wykonawczy, DzU 1997, nr 67 poz. 1.
- Ustawa z dnia 27 marca 2003 r. o planowaniu i zagospodarowaniu przestrzennym, Art. 2 pkt 9, Dz.U. z 2018 r. poz. 1945.
- Ustawa z dnia 9 kwietnia 2010 r. o Służbie Więziennej, DzU 2010, nr 79 poz. 523.
- Zarządzenie Nr 29/2015 Dyrektora Generalnego Służb Więziennej z dnia 1 lipca 2015 r. w sprawie transportowania skazanych.