

Article

Evaluation of the Road Policy in the Light of Vision Zero in Jaworzno, Poland

Paweł Pistelok ¹  and Daniel Štraub ^{2,*} 

¹ Institute of Urban and Regional Development, Targowa 45, 03-728 Warsaw, Poland; ppistelok@irmir.pl

² Institute of Geography and Spatial Management, Faculty of Geography and Geology, Jagiellonian University, Gronostajowa 7, 30-387 Cracow, Poland

* Correspondence: d.straub@doctoral.uj.edu.pl

Abstract: Vision Zero (VZ) is a systematic approach whose goal is to reduce the fatalities and serious injuries suffered in road accidents to zero, which was first adopted in Sweden in 1997. Besides assessing the policy implementation in the Polish town of Jaworzno, this paper applies VZ as a framework to describe transport policy development in Jaworzno. It concludes, that even without an explicitly defined strategical VZ document, the action taken by city officials in Jaworzno clearly overlaps with VZ, as evidenced in Sweden. Also, strong political commitment, clear leadership and a dynamic approach to adjust the development according to new evidence, show the city of Jaworzno to be a learning institution in its enhancement of road safety and its support of sustainable development.

Keywords: Vision Zero; road safety; transport planning; urban development; Jaworzno



Citation: Pistelok, P.; Štraub, D. Evaluation of the Road Policy in the Light of Vision Zero in Jaworzno, Poland. *Sustainability* **2021**, *13*, 8745. <https://doi.org/10.3390/su13168745>

Academic Editors: Elżbieta Macioszek, Margarida Coelho, Anna Granà and Raffaele Mauro

Received: 25 June 2021

Accepted: 2 August 2021

Published: 5 August 2021

Publisher's Note: MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Copyright: © 2021 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

1. Introduction

There has been a steady growth in the urban population and people's desire to live in urban areas has imprinted on the growing expectations towards the ways in which urbanities should be managed and designed. Therefore, city representatives, policy planners and urbanists face many challenges regarding various aspects of the urban environment, such as the quality and availability of housing stock, design of public spaces, transport infrastructure, and how to accommodate traffic flows within urban spaces. Due to the steadily growing use of cars as an individual means of transport, which is especially true for Poland [1,2], transport issues represent one of the crucial problems for various municipalities around the world [3–9].

The increasing use of cars might not only result in discrimination of other means of transport or transport exclusion [10,11] but also negatively influence the quality of the environment. As there is a consensus in the academic debate over the negative externalities of car use, such as landscape fragmentation, noise and air pollution, traffic congestion and road accidents [12,13], many urbanists and policy planners are now following the narrative of sustainable mobility development [6,8,12,14]. At present, there exists a plethora of instruments that municipalities might use to challenge various transport-related problems underpinned by the excessive use of cars [15–17]. The use of such instruments reflects the local specifics of transport and urban systems and every municipality has its own strategy for how to cope with transport-related problems. As indicated by Greene and Wegner [15] or Aftabuzzaman and Mazloumi [18], there are three broad approaches of transport strategies with which to tackle transport-related challenges: (1) to support the shift from private motorised transport to shared-mobility services, non-motorised transport and public transport [19–25]; (2) complex transport and urban planning [4,7,26–29]; and (3) technological innovations to reduce the negative externalities of car-use [30–32].

Besides implementing policies to reduce the negative environmental impact of transportation, or to improve the accessibility of urban areas, there are municipalities that focus

on the improvement of road safety [3,33–35]. Improving safety for pedestrians through the optimisation of crossing facilities [31,36], reduction of traffic flows via road diet conversions [37] are just some of the instruments authorities could use. A systematic approach to implementing various transportation solutions in order to promote road safety is in the literature and practice covered by the terms of the Vision Zero (VZ) policy. Its main aim is to increase road safety in order to achieve zero deaths due to road accidents [38–41] but does not focus solely on various transportation solutions (e.g., road diet conversion) but also covers the educational aspect of transport behaviour.

All this is of the utmost importance, as the gravity of road accidents translates into many socio-economic and operational costs. The National Road Safety Council (Krajowa Rada Bezpieczeństwa Ruchu Drogowego) found that the costs of accidents for 2018 alone amounted to 44.9 billion PLN, which is 2.1% of the Polish GDP [42]. The occurrence of a traffic incident touches upon the various contexts in which such costs are generated. These include: the cost of the work of the police and emergency services; the cost of funeral services; the cost of hospitalisation; the cost of criminal proceedings; the cost of compensation and reparation; material losses; the economic losses of the country [42]. It can thus be said that a single event generates a series of costs that follow one another, sometimes for years.

An overview of the situation on the roads in Poland shows, that the number of accidents, as well as deaths systematically decreases over the years. The number of accidents between 2011 and 2019 was reduced by 24%, and fatalities by 31% (Table 1).

Table 1. Road situation in Poland 2011–2019.

Data	2011	2012	2013	2014	2015	2016	2017	2018	2019	Change 2011–2019
Accidents	40,065	37,046	35,847	34,970	32,967	33,664	32,760	31,674	30,288	−24%
Killed	4189	3571	3357	3202	2938	3026	2831	2862	2909	−31%
KSI	16,774	15,620	15,029	14,898	14,138	15,103	13,934	13,803	13,542	−19%

Source: [43,44], Note: KSI—killed and seriously injured.

The situation on Polish roads, therefore, might be improving but according to experts, still not unsatisfactorily, as the European Commission data proves that Poland is still one of the least safe countries. In 2020, the situation was worse only in Romania, Latvia and Bulgaria [44]. A 31% reduction in casualties is still not much compared to the objectives of the programmes discussed in Section 2.1.

This article contributes to the debate on transport planning by analysing the actions taken in the Polish town of Jaworzno. For almost 20 years now, the city has been consistently developing solutions in its road network system, thus reformulating the ways in which transport policy ought to be implemented. Such changes have resulted, among others, in a decrease in the number of road incidents, including fatal ones, and the town has been a finalist of the EU Urban Road Safety Award [45]. Increased road safety in Jaworzno has given rise to a discourse that resonates at both the local and national levels.

Hence, the aim of this article is (1) to assess the quality of the policy implementation in Jaworzno using a specified framework and (2) to reconstruct the discourse on developing the transport policy according to the Vision Zero interpretative framework. After the Introduction, the idea of Vision Zero is presented, followed by a description of the Methodology and Study area. Policy analysis on how it follows the VZ idea is presented in the Results, and the paper ends with the Discussion and Conclusion.

2. The Vision Zero Idea

Sweden was the first country to introduce VZ nationwide in 1997 [39]. From that time, the VZ policy has gained worldwide popularity, and the principles of VZ meant to increase road safety, prevent injuries and reduce the number of deaths to zero have been implemented in Norway, the USA and Canada [46]. Also, the philosophy of the policy, whose core feature is to prevent injuries, was also translated into other safety-related

areas, such as the workplace, fire or patient safety, as well as influencing a number of other policies which focused on various issues, such as drug use, violence against women, eviction of families with children [46,47].

Although the VZ policy might be understood as a way to implement specific transport and urban planning measures (e.g., zones with low speed limits, speed humps, roundabouts, barrier separation of roads), it has also caught the attention of the automotive industry, where companies are trying to increase safety for people both inside and outside of cars through the adoption of technological innovations (e.g., detection of driver fatigue or sensors monitoring the situation outside cars).

There exists a substantial body of literature that covers VZ problems from different angles. Šucha [48] and Kim, Muennig and Rosen [41] focus on concrete recommendations of how to design and implement VZ policy; Elvebakk [49] examines the change of actors' responsibilities due to the VZ policy; Kristianssen et al. [46] provide a comparative analysis of various VZ policies; the process of policy formulation and adoption is analysed by Belin, Tillgren and Vedung [39]; and Johansson [50] addresses the ability to increase road safety.

The actions promoting VZ in practice not only include the improvement of road safety standards for all potential users, but also educational campaigns to raise awareness of safety measures, better utilisation of used technology (e.g., in-vehicle speed adjustments), public transport improvements, special road safety regulations, changes in handling traffic offences and new financing for further road development [51].

At this point, it has to be mentioned that the Vision Zero policy is considered a holistic approach [52] aiming to improve road safety by sharing the responsibility for the safety issues among various entities, such as public authorities, infrastructure designers, car manufacturers or educational institutions. In comparison to the holistic approach, the traditional approach is narrower and does not include the various arrays of entities with shared responsibilities for the road safety but is centred around the user being the cause and thus responsible for the road accidents [40] and individual measurements which do not necessarily have to be integrated into complex approach are being implemented in a reaction to specific road safety issues. It is currently complex and holistic or referred to as a systematic approach, which is considered to be the effective way of challenging and improving the road safety landscape [53,54].

National road safety policies in, for example, Sweden [39], Netherlands [55], Australia [56,57], Norway [58], Switzerland [59] or to some extent in Poland [60], as described below, are following the principles of the systematic approach in reducing road fatalities. Such nation-wide policies represent guidance for municipalities to define and conduct policies that tend to follow the same vision and goal as the country-wide programmes [54]. However, the existence of the national road safety programmes does not exclude individual municipalities, as in the case of this study, the Polish town Jaworzno cannot execute its own policies to improve road safety.

What is however interesting, is that the road safety policy labelled by the public authorities in Jaworzno as Vision Zero is in the clash between the holistic and traditional approaches, as the rationale in Jaworzno is also driven by the fact, that mankind is not evolutionarily adapted to driving vehicles [61], as is shown later. Thus, the inspiration for this study is the use of the VZ as an interpretative framework to examine how this specific Vision Zero has entered the local debate and is being executed [57] and to contribute to the ongoing Polish Vision Zero debate [52,60].

2.1. Road Accidents in Poland and the Polish VZ Approach

Poland addressed road safety by implementing Vision Zero features nationwide, but before this Polish take on this idea is addressed, a general look at road safety regulations and policies in Poland should be presented.

The issues of road traffic safety are directly addressed in the national legal act comprehensively regulating road traffic issues—the *Road Traffic Act* (commonly known as the "Traffic Code") [62]. Chapter Va "Road Traffic Safety Measures" establishes the National

Road Traffic Safety Council which is an inter-ministerial advisory body for road traffic safety. It coordinates activities for road safety, including initiating scientific research, initiating and giving opinions on relevant legislation and much more. Most importantly, this body is responsible for the preparation of national road safety programmes.

First of all, as for 2020, 89.5% of accidents were caused by motorists. Here, among the most common causes are: not yielding to the right of way (27.2%), not adapting speed to traffic conditions (26.3%) and not giving priority to a pedestrian at a crossing (11%). On the other hand, pedestrians cause 5.9% of all road accidents and over half of them (50.6%) come from stepping onto the road right before the vehicle [63].

In total, Poland since 1996 has had four National Road Safety Programmes (PBRD—Program Bezpieczeństwa Ruchu Drogowego), and while the first two documents, from 1996 and 2000, do not adopt a general system approach [52], the two subsequent documents, discussed below, do adopt VZ as the main assumption. The two programmes are considered to be the beginning of Poland's systemic approach to road safety [52].

The first one is the National Road Safety Programme 2005–2007–2013: GAMBIT 2005. According to this document, health and life should be favoured over mobility, transport systems should “forgive” the user's errors and the reduction of road accidents is everyone's responsibility. The main strategic aim of the programme was to reduce the number of fatalities by 50% by 2013. Long-lasting and effective actions, the creation of appropriate approaches of road traffic participants, the protection of pedestrians, children and bicycle users, the creation and maintenance of safe infrastructures and the reduction of the gravity of road accidents, were defined as ways to achieve this aim.

The next one, the National Road Safety Program 2013–2020, focuses on systematic actions to increase road traffic safety by following VZ and defines goals like reducing the number of fatalities by 50% and the seriously injured by 40%. The document names key factors for implementing VZ in Poland: education and instruction of road users, discipline in following rules and the inevitable consequences of violating them, road speed, vehicle safety standards and design and modernisation of roads.

The two programmes show an evolution in thinking and signify a realisation that not only is the elimination of death important in the VZ approach, but injury as well. This broadens the perspective and allows for more thought-out actions. It should be noted that in recent months there have been significant changes in the Road Traffic Act. On 1 June 2021, an amendment came into force, which, among other things, gives pedestrians priority not only at pedestrian crossings but also when entering them. Another change is the unification of the speed limit to 50 km/h in a built-up area 24 h a day (previously it was 60 km/h at nighttime) [64]. It should be noted that the improvement of the situation of pedestrians on the road, as well as the unification of speed in the built-up area, are examples of actions indicated in the Implementation Programme for 2020, prepared for the NRSP 2013–2020 [65].

However, the in-term GAMBIT analysis concludes that the initiative did not gain relevant support (financial, legal or organisational) and was not properly monitored [66]. Also, the main problems lie in insufficient political will, funds and the lack of wholesale actions [66]. The evaluation of this programme (2013–2020) notes that the number of fatalities among pedestrians caused by drivers under the influence of alcohol was reduced, thanks to increased police activity, local road modernisation and the improvement of rescue assistance at the scenes of accidents. However, it has been noted by an expert from the Road Safety Council in Małopolska, that “The premises of the programme were right, but its effectiveness is not sufficient”. The document is merely a “paper programme” that “is not followed by any particular funds” for implementing its premises, according to an anonymous expert from the Road Safety Council for Łódź Voivodeship (Appendix A, Table A1, item no. 9, pp. 70–71). The report states that increasing road safety has been impaired by a lack of coordinated and coherent actions. The responsibility is scattered among too many entities. The experts have said that, in Poland, reaching the goals of VZ could be possible by 2050 [67].

Therefore, as it has been said above, the 2013–2020 programme's goal remains unfulfilled. Poland is still a long way from achieving the 50% casualty reduction target set out in the above-mentioned document (Table 1). As can be derived from sources, road safety policies in Poland cannot benefit fully from the adopted VZ approach. The aforementioned programmes suggest possible directions. However, due to a lack of proper monitoring, political will and funding to support all kinds of actions stipulated in subsequent documents, one cannot expect that the dynamic in safety development in Poland will change substantially without first addressing the organisational flaws.

However, it should be noted that another opportunity to consolidate Vision Zero at the national level is on the horizon. Anna Zielińska of the expert group for updating the National Urban Policy 2023 [68] has proposed “Vision Zero—systematic, integrated actions aimed at (in the long term) achieving zero fatalities and serious injuries in road accidents” [69] as one of the solutions for the new document. This solution assumes, among other things, providing financing for the programme, preparing a manual that provides the conditions for the VZ implementation, creating a network of municipalities implementing VZ in order to exchange experiences or creating an urban mobility observatory which would monitor the implementation of the programme.

It is not known yet, whether such a solution will be included in the new edition of the National Urban Policy document.

3. Methodology

In terms of data collection, what the authors did is a classic case of triangulation. A practice of collecting and analysing various types of data as a part of the same research process [70]. The intention was to produce results that are comprehensive and exhaustive. The authors are aware that the techniques used are well established in the field of social research, but due to the nature of the problem studied, they felt it necessary to provide qualitative input. The authors decided to take a risk and, using qualitative techniques used in social research (ethnographic, sociological), answer questions derived from the field of public policy making to tell how the town implements a bottom-up initiative to improve road safety.

For the analysis of the Jaworzno case, the framework proposed by the Centre for Public Impact (CPI) was used [71]. This framework allows for the assessment of the quality of policy action taken by the local government in Jaworzno by focusing on the important policy formulation pillars, as follows: (1) problem identification; (2) policy formulation to address the problem; (3) formal policy adoption; (4) policy implementation; and (5) policy evaluation [72,73]. The CPI framework is comprised of three elements, as follows: (1) legitimacy, defined by public confidence, stakeholder engagement and political commitment; (2) policy, defined by clear objectives, evidence and feasibility; and (3) action, comprised of management, measurement and alignment. This approach was previously utilised by the Urban Policy Observatory for analysing the case study of the participatory budget in Dąbrowa Górnicza, Poland [74] and proved adequate in assessing local government policies. It is also worth noting that research using CPI, to the authors' knowledge, is not usually used in academic articles, whereas the CPI framework offers a complete set of features that allow for the appropriate research question to be posed.

To fulfil the aim of the study, interviews were conducted with various policy actors, with analyses of official documents, strategies and reports, and statistics referring to road accidents were used. These techniques (desk research, content analyses and interviews) serve to produce deep knowledge on the studied subject, especially in the case of qualitative interviews.

Between May and June 2020, four in-depth interviews were conducted with experts and stakeholders to understand the action taken in Jaworzno. The interviews were semi-structured, organised around critical topics derived from the CPI framework to match the context of Jaworzno. Two interviews were conducted with experts outside of the organisational structures of Jaworzno. Contact was made with Jan Gregorowicz from INKOM s.c.,

a design and service company that from the very beginning has cooperated with the Jaworzno authorities, preparing a number of transport studies (in 2003, 2012 and 2015; for the documents see: Appendix A, Table A1, item no. 3, 4, 6), and therefore has become the main actor of the process. However, the studies are not based on VZ premises. Another interview was held with Marcin Hyla, the president of the Cities for Bicycles Association (Polish: Stowarzyszenie Miasta dla Rowerów), Poland, whose activities are closely related to route safety and design. Among the public authorities interviewed were Tomasz Tosza, Deputy Director of the Municipal Roads and Bridges Board in Jaworzno (Polish: Miejski Zarząd Dróg i Mostów—MZDiM) and representatives of the Urban Planning and Architecture Department (Polish: Wydział Urbanistyki i Architektury—WUA), Jaworzno City Hall. Here the interlocutors were Teobald Jałyński (head of the department) and Małgorzata Nowacka-Wysogład, the manager of the Spatial Management Office (Polish: Referat Planowania Przestrzennego). Additional discussions and consultations were held with Anna Zielinska of the Motor Transport Institute (Instytut Transportu Samochodowego).

For desk research, strategic documents (Appendix A, Table A1) covering the studied period were analysed in the light of the Vision Zero policy based on the documents and studies provided by Trafikverket, Swedish Transport Administration, a body responsible, among many others, also for long-term planning of the transport system for all types of traffic, including VZ. Also, additional statistical sources referring to road accidents were used.

To examine the development of transport policy in Jaworzno, this study uses VZ as an interpretative framework. In so doing, the following principles (Table 2) and actions connected with VZ policy were used as the reference for this study's interpretation.

Table 2. Principles and actions of Vision Zero.

VZ Principles	Actions to Increase Traffic Safety
- Human life and health are paramount and take priority over mobility and other objectives of the road traffic system. - Providers and regulators of the road traffic system share responsibility with drivers and other users. - Road traffic system should take account of human fallibility and minimise both the opportunities for errors and the harm done when they occur. - Providers and regulators must do their utmost to guarantee the safety of all citizens and cooperate with road users, and all three must be ready to change to achieve safety.	- Special safety measures for the most dangerous roads - Better road safety in urban areas through changes in road design and other measures - Emphasis on road-user responsibility through such measures as seat belt campaigns - Safer conditions for cyclists - Improving safety in public transport services - Compulsory use of studded tires in the winter - Better utilisation of Swedish technology, including automatic in-vehicle speed adjustment systems - Greater responsibility placed on traffic system designers - Changes in handling of traffic offences - Expanding the role of voluntary organisations - Studying alternative forms of financing new roads

Source: [51].

4. Study Area

Jaworzno is a town with a population of 91,115 people [75] located in southern Poland, and adjacent to the GZM Metropolis (Polish: Górnośląsko-Zagłębiowska Metropolia) in an urbanised and industrial area. In comparison with other settlements in the GZM (e.g., Bytom, Gliwice, Tychy, Mysłowice, Sosnowiec, Zabrze) it could be said that Jaworzno is a middle-sized town. What distinguishes Jaworzno from the rest of the Silesian conurbation is that the town is not compactly urbanised since it was created from small settlements, separated from each other by natural barriers (e.g., hills, forests).

As such, the specific urban layout in Jaworzno accommodates the individual use of cars to commute within the city. Increasing traffic flows is a common trend across Poland [1,2] and is accompanied by many negative externalities. Car accidents are one of them, which is an especially critical issue in Poland, as pointed out by the European Transport Safety Council [76]. According to the Polish police report, in Poland, there were

455,454 road accidents in 2019 with 2909 of them fatal, which shows (in comparison to the years 2017 and 2018) an increase in total road accidents by 4.3% in 2017, 4.4% in 2018, and fatal road accidents by 2.8% in 2017 and 1.6% in 2018 [63].

To break this trend, and to increase the quality of life in Jaworzno and provide safer roads, Jaworzno decided to change the design of the route infrastructure and promote multimodality by decreasing the use of cars and therefore road accidents. The authorities' dealings placed the initiative within the scope of two narratives. One, physiological, refers to the notion that mankind is not evolutionarily adapted to driving vehicles [61]. The other has an ethical dimension, embodied by the Polish approach to VZ in the GAMBIT 2005 programme (Appendix A, Table A1, item no. 8) [67]. Jaworzno thus calls for the "domestication" of drivers to take responsibility for lives while on the road [77]. Framing the changes in Jaworzno as VZ is, as is shown in Section 2, this approach was not only promoted via national policies (e.g., Sweden [39], Netherlands [55], Australia [56,57], Norway [58], Switzerland [59]) but could be found also in individual municipalities that support the VZ idea. London [78] or Vision Zero Network [79] are just some of the examples of municipalities that, by using similar strategies [41], are improving road safety.

Since 2003, the transport infrastructure and public space in Jaworzno has undergone key changes which discourage the use of cars, as stated by the deputy head of MZDiM responsible for the road infrastructure. By building new road bypasses to divert the transit traffic away from the city centre, designing transport infrastructure to calm the traffic (e.g., speed bumps, roundabouts, narrowing traffic lanes), developing new infrastructure for pedestrians and cyclists, and the modernisation of public transport, the city managed to reduce fatal injuries to zero twice in periods of longer than 12 months [61]. As suggests for example the case of Portland, OR, USA, [80] measurements to prevent high speed on the road like speed bumps or narrow traffic lanes are effective tools to prevent road fatalities. According to the expert, the speed taming in Jaworzno was supported by additional infrastructural changes to motivate people to use non-motorised transport.

The main pedestrian and cycling investment is Velostrada—completed in 2018, a 10-km-long road, called a "bike highway". A sidewalk is adjacent to its lanes, making it suitable also for pedestrians [81].

In terms of rethinking the traffic lanes, the city adopted the practice of street "cameralisation"—introduced by INKOM—which means, for example, the narrowing of streets, along with widening the sidewalks. Such roads appear "tighter", creating an impression that one is driving faster than the actual speed [61] (p. 21). Such a solution as the one introduced in Jaworzno was inspired by similar investments in the Netherlands.

Anna Zielińska, an expert from the Motor Transport Institute, notes in an interview with the authors that similar infrastructural measures are undertaken throughout Poland—traffic calming, tempo 30 zones, additional lighting of pedestrian crossings. In Jaworzno, this approach to infrastructure—along with, according to the nomenclature used by the city's experts, the "cameralisation" of streets—as a systemic measure started being introduced much earlier than in other cities. In principle, however, what Jaworzno is doing quite reflects what is being done in the country and does not deviate from the generally adopted practice.

5. Results

Starting with the analysed strategies and official documents, for example, one of them states that the protection of the environment can be achieved by supporting investments limiting road transit traffic through the city and through activities limiting the emission nuisance of road transport means. Future actions should include relieving the streets and increasing road capacity. Traffic optimisation was considered a factor in environmental protection (Appendix A, Table A1, item no. 11). Another document outlines the background of the problems that the town used to have (bad condition of the transport infrastructure). It notices an increase in traffic accidents and aims to solve it and provides solid evidence for further development which later was translated into VZ (Appendix A, Table A1, item

no. 12). In another one, the development of bicycle paths with accompanying infrastructure is indicated (Appendix A, Table A1, item no. 2). An indirect mention of city bike-sharing (a result of, and a means to, develop low-carbon emission economy) can be also found (Appendix A1, Table A1, item no. 1). There is also a document that aims to improve safety and reduce the risk of accidents (Appendix A, Table A1, item no. 7). The authors also found a comprehensive study covering all relevant fields, with respect to all modes of communication, including the premises for parking policy. However, the problem of safety is not explicitly presented, nor is VZ mentioned (Appendix A, Table A1, item no. 5).

As it can be seen, VZ premises are not directly reflected or foreshadowed in the analysed programmes and strategies. They, however, show awareness of issues that, to a certain extent, ultimately contribute to the state of road safety.

Moving to the main analysis, it should be said that the first actions taken in Jaworzno, important for implementing the VZ premises, can be traced back to the early 2000s, when the authorities initiated cooperation with the communication and design company INKOM from Katowice, to prepare a new transport and communication study (Appendix A, Table A1, item no. 3).

5.1. Policy Assessment through CPI Framework

5.1.1. Policy

It is apparent that the aim was as clearly formulated at the beginning as it evolved over time. The problem of safety derived from the VZ concept was not the primary goal:

The general goal was to make the people happy. The residents wanted to have a market square and a feeling that they live in a city, not an industrial village. (. . .) you have to keep in mind what kind of a city Jaworzno was 20 years ago. (...) Congestion was in fact one of our last problems (. . .). [MZDiM]

The INKOM expert says that the original idea was to move the traffic out of the city centre, while WUA points to an improvement of the overall condition of the transport system and the updating of outdated spatial planning documentation, as well as to making Jaworzno a more consistent urban unit. Therefore, in terms of **clearness of objective**, it was more concerned with growth and evolution towards the paradigm of road safety and elimination of fatal injuries. Evident is the reflexiveness of the Jaworzno authorities and readiness to readapt the policy in the light of new data:

The key moment (. . .) was around the years 2011–2012, when we received fresh statistics about the road incidents. It turned out that the building of the beltway (...) changed the transport behaviour of the drivers. (...) We had a radical decrease in road incidents, including the fatal ones (. . .). Since it “worked” we knew we should follow this direction. [MZDiM]

As a result, additional efforts were introduced, focusing directly on road safety. In terms of what has been investigated, the question of **evidence** should be spoken of highly. The city authorities fully entrusted the preparation of the 2003 transport study to professionals. It was based on precise calculations and provided an insight into how the further development of the city should work in the light of predicted traffic increase. The evidence had also another practical dimension, resulting in economic efficiency. INKOM convinced Jaworzno to carry out also such analysis, which has proven crucial when it came to raise the necessary EU. According to INKOM, the redevelopment of the transport network cost over PLN 500 million, but most of it was covered by the EU funds, with only 10–15% coming from the city's own funds. Obviously, the sole ability to effectively absorb funds does not prove anything, especially considering that external funds did not play a significant role directly when it came to discussing VZ [82], but in the Jaworzno case it adds a general management dimension.

Feasibility is preserved by cooperation with specialists (INKOM) and people dedicated to the cause. Regarding the legal framework that the local government has to work within, the assessment is not obvious. While the WUA experts are not satisfied with the

current planning system in Poland, the MZDiM expert states that the existing law provides just enough space for effective actions:

It is not true that Poland has a poor legal system that one can't properly function in. To each problem there is a way out and we owe our success to an efficient use of the solutions that were devised in the Polish law in the past 20 years. When you have the law, you need to exercise it. [MZDiM]

In terms of policy, Jaworzno is then a goal-oriented city, open to new insights and ready to redevelop decisions as new information and insights are provided.

5.1.2. Legitimacy

The Vision Zero programme is not included in any official document issued either by the mayor or the city council. Instead, it was made a part of the “deal” (Admin, 2014; Silbert, Jaworzno Moje Miasto Association, 2014) that Mayor Silbert made with the Jaworzno residents. Although a sign of **political commitment**, it is also the reason for the initiative being narrowed down to a “marketing” decision (as mentioned by INKOM). Nevertheless, for Mr. Tosza to put such an idea in an election deal is sufficient evidence of the mayor's will and that the city's actions did not come ex nihilo:

VZ does not exist until it is announced. So this announcement came in an unusual way: in the election program of the mayor. (...) Since VZ is in the election contract, you can always refer to the fact that the voters (...) elect a president who proposes such policy and now we are implementing it. [MZDiM]

It seems that the fact it was not explicitly put in any local law document in no way stopped the authorities from implementing it. Moreover, the MZDiM expert argues that the changes have been introduced sometimes against a certain “organisational culture”—by the method of *fait accompli*.

In a way it can be said that if it was not for extraordinary political commitment, implementation of the change would not have been possible, even if the intention was stated in the city council resolution. Such formal-informal obligation was just enough. In this respect another important aspect is the good communication within the Jaworzno City Hall, for example, between the architect and the mayor, as head of the WUA department stresses.

As for **stakeholder engagement**, their involvement depends on how close to the redeveloped area they live and to what extent this impacts on their everyday lives:

(...) when we took to designing streets, we tried to gain the public's acceptance for certain solutions [MZDiM].

Further stages normally engage the residents, with the use of workshops and meetings with designers. INKOM also makes sure that when it comes to work on a study, all stakeholders are identified:

we not only seek all those to whom our ideas bring projected advantages, but with even greater care we identify those whom we affect with our ideas [INKOM].

An interesting observation concerns “gaining public trust”. WUA reports that presently, the residents are not so much interested in shaping the city “as it was at the beginning of 2000s”. The Department sees it as an effect of “work at the ground level”, through actions dedicated to explaining to people what is entailed in changing the city. According to INKOM, even 5000–6000 people were present online to follow discussions of the proposed solutions. The main example of a stakeholder opposing the city actions was the chemical plant situated on the route of the planned solution. That resulted in INKOM not being able to complete the system in a planned way. The approach is equally important:

Mr. Tosza (...) has a very good sense of the public mood. He knows very well when he can speak bluntly and when to approach with care. The worst thing that one can do is to approach the people from a position of strength. [INKOM]

So, in terms of **public confidence**, it was not so much a given at the start, but rather it was earned. Although some local media have criticised the authorities' actions, for the city, the main evidence of general acceptance has been the survey on the quality of life in Jaworzno and the project called "Social Diagnosis"—a cyclical research monitoring Polish society from the perspective of social psychology. It shows that the satisfaction of residents between 2011–2015 significantly improved [83]. However, at the same time, the quality of life significantly dropped [84]. Regardless, Jaworzno is recognised as a city with the least irritating decisions made by its authorities [83]. Another survey shows the residents' quite positive approach to their city and its authorities [85].

5.1.3. Action

Based on INKOM's comments, **measurement** would mainly concern "carrying out current readings on the transformed network". The expert says that after comparing them with prognoses from years ago, the deviation fits within the statistical error, since a part of the measurement also serves to prepare regular updates of the study and additional actions such as communicational behaviour studies. Such a combination of various levels of study ensures regular monitoring and provides data for the main initiative (VZ).

Actions of various agents of the initiative overlap and work for a mutual result, showing **alignment** and responsiveness. The MZDiM expert argues that no radical change would be successful if not for the cooperation of the police traffic department.

As for the **management** dimension, it is clear that the key actors associated with the "change" are two:

If you asked around the city about key authors of the initiative, there would be two answers: mayor Silbert and Tosza. If it wasn't for these two (. . .) there would be nothing to talk about. Political continuity is also important. [INKOM]

This refers to the political commitment element, in the aspect of continuity. Crucial was the emergence of leadership figures devoted to implementing the initiative. Another factor supporting the management is the approach towards digital tools:

Relatively early did we start with digitalisation and GIS (Geographical Information System), what made decision-making easier and more accurate. (. . .) The INKOM company proposed to prepare the study in GIS (. . .). This allowed us (. . .) to have swift access to spatial data of various kinds. Such a system has been now present for a long time (. . .) and allowed for translating one type of documents into another and comparing them. [WUA]

The intelligent use of basic tools provides data utilised to prepare an effective response—also based on studying communication behaviour of the passengers:

Electronic cards in buses tell us who and where boards the bus, who gets off, how long was the journey. Computer systems collect such data so everything is continuously studied, (. . .) providing an excellent understanding of the matter. This way we can give response to current (transport) problems. [WUA]

The above aspect of management, responsiveness, is also a reference to the quality of measurement.

5.2. Vision Zero in Jaworzno

Firstly, it is important to state that VZ policies already differ from the legislative point of view, as in Sweden, the Vision Zero policy was adopted by the Swedish government as part of the Road Traffic Safety Bill [46], which contrasts with the practice in Jaworzno and Poland because the policy does not effectively operate nationwide, even though there have been attempts, as described in Section 2.1. In the history of Jaworzno's urban and transport development, the adoption of VZ principles starts with a milestone, represented by the mayor's elections in 2014, when the idea of VZ policy was broadly presented to the public in the form of a winning campaign and, to date, a ruling candidate [86,87]. According to

the MZDiM expert, the first changes with respect to road safety were noticed several years earlier (2011–2012).

This study could safely argue that all four principles, as earlier mentioned by [51], have been fulfilled in Jaworzno (see Table 2). The city representatives are taking full responsibility for traffic accidents and are re-designing the streets and roads to minimise the potential for accidents. Based on the public presentations of VZ in Jaworzno, across all sorts of media, the VZ discourse in Jaworzno highlights the psychophysical limits of a person in terms of road safety and which builds the rationale for adopting the principles [61].

Based on this study, the VZ policy in Jaworzno clearly corresponds with the points regarding improved road design and public transport to enhance the safety of various users, of special safety measures on the most dangerous roads (e.g., low speed limits) resulting from increased responsibility of transportation and urban planners (e.g., [61]). Also, the funding from various sources has been used to finance road reconstructions, and which is an asset since the development is not dependent only on, for example, municipality budgets and prevents resource diversion to other sectors when the situation demands it (e.g., in case of increased expenses, as in the case of public transport operations during covid-19). The weak points of VZ in Jaworzno reflect the missing nationwide legislative documents and bills, which would fully support Vision Zero, for example, in terms of new approaches to traffic offences or safety standard regulations in cars. Without the top-down approach, the only possible solution to change is via the creation of public support to generate political pressure to legitimise such a policy.

5.3. Critique

The initiative is not always well acclaimed, its critique covering a few dimensions.

The first strand of the critique concerns the controversy stirred by the deputy director in his columns and public speeches, sometimes made in a provocative tone [88]. This has encouraged opinions that the director is a proponent of “leftist ideology” [89], thereby dragging the city into the popular conflict between car drivers and the rest of the world. Also the local portal ironically refers to city authorities as “our visionaries” [90].

Marcin Hyła, a bike activist from the “Cities for Bicycles” association, criticised the solutions applied to “Velostrada” (one of the most important investments in the city in the past few years.), comparing it to similar investments in Europe [91]. For Hyła, the city’s actions show the absence of coherence between actions and strategy. However, when asked to name one good thing that can be said about the Jaworzno authorities, the activist did not think twice:

It is the city’s part in the debate on road safety. I’d wish other cities articulated the problem of safety so sharply. Their determination is also an advantage. The authorities took a risk and showed the results as their agenthood. [M. Hyła]

Such assessment can be interpreted in the context of political commitment and the leader’s initiative. Also, in Mr. Hyła’s opinion, there was no serious problem at the beginning nor a significant improvement at the output. Other similarly populated towns have also noted either a more significant decrease in fatalities (Table 3) or have also reached “zero” fatalities (e.g., Grudziądz and Jastrzębie-Zdrój, Table 3).

Table 3. Fatalities in road accidents per 1000 inhabitants in towns between 90,000 and 110,000 inhabitants *.

City	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Jaworzno	0.01	0.02	0.06	0.04	0.05	0.02	0.04	0.00	0.05	0.01
Grudziądz	0.10	0.02	0.01	0.01	0.03	0.00	0.02	0.03	0.02	0.01
Słupsk	0.05	0.04	0.01	0.05	0.01	0.03	0.05	0.01	0.07	0.02
Jastrzębie-Zdrój	0.00	0.04	0.01	0.03	0.01	0.07	0.01	0.04	0.00	0.03

Source: [43,75]; Note: * average number of inhabitants in the studied period 2010–2019.

In the data collected by the Polish National Police, it can be seen that there are also other towns that have reached zero fatalities—Włocławek (average population for the studied period: 101 318) in 2015 and Legnica (average population for the studied period: 101 318) in 2011, 2016, 2018 [43,75]. Following these remarks, the authors analysed the statistics (the study covers the years 2010–2019, as POBRD (Polish Road Safety Observatory) data was available for this period. Consequently, the average population in the selected towns was also calculated for this period (Tables 3 and 4)) and found that the decrease in road accidents is general in all analysed towns. In the examined data, for Jaworzno, the change is visible around 2013 (Table 4), and therefore after the election contract introduced the VZ narrative [86,87]. In the examined data, in 2015, for the first time the index in Jaworzno significantly dropped (Table 4).

Table 4. Road accidents per 1000 inhabitants in towns between 90,000 and 100,000 inhabitants.

City	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Jaworzno	0.94	1.04	0.87	0.73	0.72	0.46	0.39	0.39	0.32	0.31
Grudziądz	0.43	0.33	0.31	0.35	0.30	0.36	0.43	0.36	0.49	0.25
Słupsk	1.16	1.16	1.09	1.28	1.32	1.34	1.24	0.82	0.99	0.61
Jastrzębie-Zdrój	1.11	1.11	1.08	1.03	1.04	1.09	0.96	0.89	0.64	0.64

Source: [43,75]; Note: average number of inhabitants in the studied period 2010–2019.

Consistently, the KSI index also decreased for the first time around 2013–2015 (Table 5). However, as can be seen in the tables, both average values in the analysed period (Table 6) and year-on-year show that in Jaworzno the indicator still does not look impressive compared to other similarly populated towns. These figures show that one should not proclaim that the goal has been achieved until one looks at the slightly wider context. The success of an initiative cannot be evidenced by the one-off achievement of the expected value of a given indicator. In the case of Jaworzno, changes are most clearly visible only in the case of the general accident data (Table 4).

Table 5. Killed and seriously injured rate per 1000 inhabitants in towns between 90,000 and 100,000 inhabitants.

City	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Jaworzno	0.21	0.26	0.27	0.13	0.21	0.09	0.17	0.11	0.25	0.13
Grudziądz	0.24	0.13	0.11	0.04	0.09	0.05	0.09	0.12	0.17	0.05
Słupsk	0.23	0.36	0.22	0.32	0.21	0.41	0.42	0.35	0.37	0.15
Jastrzębie-Zdrój	0.27	0.23	0.15	0.19	0.20	0.23	0.14	0.12	0.16	0.26

Source: [43,75]; Note: average number of inhabitants in the studied period 2010–2019.

Table 6. Selected data on road accidents: average for 2010–2019 per 1000 inhabitants in towns between 90,000 and 100,000 inhabitants.

City	KSI	Road Accidents	Fatalities
Jaworzno	0.184	0.619	0.032
Grudziądz	0.111	0.361	0.026
Słupsk	0.305	1.102	0.035
Jastrzębie-Zdrój	0.195	0.960	0.025

Source: [43,75]; Note: average number of inhabitants in the studied period 2010–2019.

Another branch of the critique points to inconsistencies in the VZ approach. Local NGOs have noticed that, despite beltways diverting the traffic away from the city centre, inside this area, no significant changes were introduced. Increased traffic, resulting in many collisions, is still present [92].

Ambiguity is noticeable in findings from the opinion polls. Despite unequivocal approbation of yearly public transport tickets, between 2016–2018, the decrease of public transport users is apparent [85].

Lastly, as for the VZ component, this study indicates that besides promoting the city's own initiative through media or various conferences, which were rather haphazard, there has been no systematic attempt to raise awareness in the VZ field. Deputy director Tosza in the interview explicitly stated that he does not believe in education (which is embedded in the Polish approach to VZ), since its shape is what has brought problems that Poland has to deal with today. This could be held as a serious flaw, as Jaworzno does not seem to fully grasp the rationale underpinning the essential traffic changes. It can limit the potential to mobilise the public and influence legal changes in order to promote VZ principles nationwide.

The above findings do not undermine what Jaworzno claims to have achieved over the years, as changes in KSI indeed emerge around the time the VZ premises were introduced (2013–2015). Even if not permanently, the situation generally improved. This supports the claim that VZ is not about incidental one-time change, but is a long-term process of adaptation and grounding its premises. To refer to the critics' comments, just because other, similarly populated cities either had more causalities or avoided them also, does not mean that Jaworzno did not need to introduce any changes in policymaking.

6. Discussion

The conducted analysis does not show the explicitly outlined Vision Zero strategy as it has been, for example, in Sweden [39], Australia [56,57], Norway [58]. This is due to the way VZ was announced—as an election contract between the mayor and the residents [86,87]. Such formal-informal obligations can be interpreted as a “safety catch”. Nevertheless, this is why it is in the mayor's best interest to pursue the initiative, which is being done with the utmost consistency. It is also an example of how to emphasise the need to challenge current (in)formal and (un)conventional institutional practices [93] and set the city on to a new path of urban and transport development [94,95].

It should also be remembered that, at a nationwide level, there was no significant support in this respect. Although relevant road safety programmes referring to VZ in Poland existed [52,60], sources analysed by the authors show that the agency of these programmes was not sufficient enough to impact actions implementing the idea in the local context.

In Jaworzno, it is more about the general philosophy of how to shape the infrastructure and urban environment. Although the actions taken by the public authorities are in line with the narrow traditional approach of road safety [40,52], VZ outlines the public authorities' way of thinking in Jaworzno and which refers to humans' lack of evolutionary adaptation for driving vehicles [61]. It stresses the ethical dimension, that is, not killing each other on the roads. All this underpins the planning practices in Jaworzno, because as this study confirms, a number of the Vision Zero qualities as indicated by [51] are identified in the town, such as improving safety by design, safe conditions for bicycles, stressing the responsibility of the road designers, searching for alternative ways of funding and even raising speeding ticket fines.

Even though the Vision Zero strategy in the case of Jaworzno is not defined per se in specific urban or transport planning documents, the public authorities have shown goal-orientated and political commitment. It is this dynamic and adaptive approach [96] that has proven to be suitable for following concrete milestones in the highly complex, unstable and evolving environments of transport behaviour and urban planning. The case of road safety emerged at some point as a welcome side effect. Jaworzno embarked on it, which shows the town to have a responsive administration that is willing to change its scope, whenever new data appear.

One might suggest that the way in which the Vision Zero strategy was revealed in front of the public was made only for good headlines in the local, regional and national

newspapers and is yet another case of post-politics [97,98], similar to the fare-free public transport implementation in Luxembourg [99]. However, as this study shows, this is not the case with Jaworzno, whose public authorities expressed a strong political commitment to enhance road safety, underpinned by a reflexive government able to implement quick evaluations and interventions. The Jaworzno case shows that it is possible to follow the VZ objectives even without support from a national and holistic VZ programme and thus might be an example and inspiration for all municipalities not only in Poland but elsewhere.

7. Conclusions

The research process carried out by the authors has shown two main things: the adequacy of the CPI framework (Table 7) to pose questions in yet another area of local governments' activities, that is, road safety improvement measures, and a certain fragmentation in the planning approach to road safety in Poland. While it appears that VZ has been adopted in Poland as a certain paradigm for road safety policy planning, these programmes have proved inefficient and insufficiently piloted in the opinion of experts. Jaworzno, on the other hand, is an example of a town that is trying to implement Vision Zero at the local level from the bottom up. Although political will and determination play a key role here, there is a lack of national regulations that could serve as an anchor or legal basis for a greater establishment of VZ as part of local law in the municipality.

Table 7. Jaworzno policy in the light of the CPI framework.

CPI	+	–
Policy	Clearly defined goal Positive approach to legal matters, exercising the existing law VZ as a direct consequence of general transport policy	Lack of strategy directly embracing the VZ matter An excess of journalistic and crude language in narrative
Legitimacy	Strong leadership and commitment Eventual acceptance of residents Gaining recognition abroad: Urban Road Safety Award nominee (Iuz 2020)	No information on particular practices in engaging the residents
Action	It is clear who is responsible for running the initiative. Good cooperation between all units responsible for implementing the initiative Evidence-based dealings Ensuring the measurement (transport network)	Noticeable lack of consistency in some dimensions, resulting in ambiguous assessment

Source: Own study, based on the Centre for Public Impact Framework [71].

Vision Zero in Jaworzno serves as a narrative for shaping the urban environment in order to enhance road safety. Even though such a narrative is not present explicitly in strategical documents per se, this study confirms that the actions taken by the public authorities clearly overlap with Vision Zero as is understood from the nationwide policy in Sweden.

Even without specific VZ documentation, the public authorities have successfully fulfilled at least some of its premises, such as decrease in the road accidents. Changes in KSI index are also noticeable. Its share in this is reinforced by the fact that the VZ approach was announced in the form of a mayoral election contract. Such a contract was implemented as a “formal-informal” promise of a re-elected mayor.

As this study concludes (Table 7), the strong political commitment, devoted leadership and dynamic approach to adjusting the development as and when new evidence appears, portray the city of Jaworzno as a learning institution supporting sustainable development. Jaworzno has strongly relied on precise data and operates according to evidence. Substantial credit is due to the INKOM company which introduced GIS tools to Jaworzno.

VZ in Jaworzno represents a manner in which an urban policy should be conceived, and thanks to that, the question of ensuring the proper infrastructure for the creation of safe

traffic conditions has been brought to the public's attention through articles, conferences and many other means.

The authors confidently claim that a dynamic, open-ended and adaptive approach, evidence and (most importantly) an exceptional political commitment are highlights of the Jaworzno approach to transport policy and development of road safety awareness.

The main conclusion is that policy makers need not, and should not, wait until national strategies are developed before taking action. While political will and determination play a key role in the implementation of initiatives, it is important to adopt a bottom-up approach, which, in the present case, is to develop local practice. The local level of the municipality can serve as a kind of laboratory that generates concepts and cases for the development of more general policies for which national agendas/entities are responsible. As already stated, the VZ experience has a chance to be translated into concrete actions within the new National Urban Policy. Regardless of the final outcome on this issue, it is evident that the "seeds have been sown" in the Polish VZ discourse.

Talking about small steps, Jaworzno could be an example and inspiration for other municipalities not just in Poland. Local decision-makers can start with really basic and pilot changes, for example, narrowing selected streets, supporting active mode of transport and seeking public support. In Poland, the situation is specific in that, as mentioned, it is easy to create a public conflict around the pedestrian-driver antagonism. Therefore, as important as the small steps method is the preparation of a reliable information campaign, explaining not only what the planned changes aim to achieve, but above all that they are not aimed at any group of residents, and that their implementation is ultimately in the interest of all.

Author Contributions: Conceptualisation, P.P., D.Ś.; methodology, P.P., D.Ś.; formal analysis, P.P., D.Ś.; investigation, P.P., D.Ś.; resources, P.P., D.Ś.; writing—original draft preparation, P.P., D.Ś.; writing—review and editing, P.P., D.Ś.; Both authors have read and agreed to the published version of the manuscript.

Funding: The publication process of this paper was financed by a subsidy of the Ministry of Education and Science and the Urban Policy Observatory's own funds.

Data Availability Statement: Data on road safety used for Tables 3–6 come from the Polish National Police (Accidents and Collisions Records System) and are publicly available at Polish Road Safety Observatory site: <http://www.obserwatoriumbrd.pl/> (accessed on 20 June 2021). Interviews and transcripts cannot be released. Data on inhabitants (population) for Tables 2–4 comes from Local Data Bank, Statistics Poland and are publicly available at: <https://bdl.stat.gov.pl/BDL/start> (accessed on 20 June 2021).

Acknowledgments: The authors thank Jan Gregorowicz from INKOM s.c. company for his insight and for providing the authors with key sources. Warm thanks go to Tomasz Tosza from MZDiM, Jaworzno for his consent in giving the authors access to INKOM documents on Jaworzno, provided by INKOM. The authors would like also to thank Anna Zielińska from the Motor Transport Institute for valuable materials, comments and revision of early conclusions. Similarly, the authors owe thanks to Piotr Salata-Kochanowski from the Urban Policy Observatory for comments and discussions about Jaworzno. Nevertheless, the responsibility for the final outcome is fully with the authors.

Conflicts of Interest: The authors declare no conflict of interest.

Appendix A

Table A1. Strategies and official policies.

No.	Document
1	Energoekspert: (2015). Plan Gospodarki Niskoemisyjnej dla Gminy Jaworzno. By: Jankowski, A., Sandecki, R., with: Bogalecki, J., Całka, M., Gierad, D., Lombarska-Blochel, A., Misztal, P., Szawracka, M. and Szembak, A. Appendix no. 1 to: Uchwała Nr XIV/188/2015 Rady Miejskiej w Jaworznie z dnia 26 listopada 2015 r. w sprawie przyjęcia do realizacji “Planu gospodarki niskoemisyjnej dla Gminy Jaworzno”. Available at: http://www.bip.jaworzno.pl/a,28171,w-sprawie-przyjecia-do-realizacji-planu-gospodarki-niskoemisyjnej-dla-gminy-jaworzno.html (accessed on 17 January 2021). [in Polish]
2	Fajfer, J., Kostrz-Sikora, P. (2012). Aktualizacja Programu Ochrony Środowiska dla Jaworzna—Miasta na prawach Powiatu na lata 2012–2015 z uwzględnieniem perspektyw na lata 2016–2019. Appendix to: Uchwała nr XXVI/363/2012 Rady Miejskiej w Jaworznie z dnia 29 listopada 2012. Available at: http://www.bip.jaworzno.pl/a,23141,przyjecie-aktualizacji-programu-ochrony-srodowiska-dla-jaworzna-miasta-na-prawach-powiatu-na-lata-20.html (accessed on 17 January 2021). [in Polish]
3	Gregorowicz, J., Trybuś, P. with: Baryżewska, K., Nasiek, A., Olszewski, J., Szarkowski, M., Włodarczyk, A., Zawadzki, W. (2008). Aktualizacja Studium Komunikacyjnego dla Miasta Jaworzna. INKOM, Katowice [in the authors’ archive]. [in Polish]
4	Gregorowicz, J., Trybuś, P., with: Baryżewska, K., Chuderski, B., Jamroży, A., Janikowska, L., Nasiek, A., Pawlicki, A., Włodarczyk, A., Zawadzki, W. (2012). Analiza rozwoju układu komunikacyjnego w kontekście zagospodarowania przestrzennego Miasta Jaworzna. Faza nr 5. Część wynikowa—syntetyczne podsumowanie. INKOM, Katowice [in the authors’ archive]. [in Polish]
5	Gregorowicz, J., Trybuś, P. et al. (2015a). Aktualizacja Planu Zrównoważonej Mobilności Miejskiej Jaworzna. INKOM, Katowice. Appendix to: Uchwała Nr XVII/249/2016 Rady Miejskiej w Jaworznie z dnia 30 marca 2016 r. Available at: http://www.bip.jaworzno.pl/a,28804,w-sprawie-przyjecia-do-realizacji-planu-zrownowazonej-mobilnosci-miejskiej-jaworzna.html (accessed on 17 January 2021). [in Polish]
6	Gregorowicz, J., Trybuś, P. with: Baryżewska, K., Chuderski, B., Jamroży, A., Janikowska, L., Krzysztofik, R., Łukaszek, M., Nasiek, A., Olszewski, J., Spórna, T., Szarkowski, M., Włodarczyk, A. (2015b). Sporządzenie studium transportowego, dokumentacji i koncepcji technicznej niezbędnej dla uzyskania decyzji o środowiskowych uwarunkowaniach zgody na realizację przedsięwzięcia, studium wykonalności dla realizacji inwestycji pn. Drogowa Trasa Średnicowa Katowice—Dąbrowa Górnicza na terenie miast: Mysłowice, Sosnowiec, Jaworzno (Drogowa Trasa Średnicowa Wschód). 04. Część wynikowa studium transportowego. INKOM, Egis Polska Inżynieria. Katowice, Warszawa [in the authors’ archive]. [in Polish]
7	Izdebska, H., Olszewski, J., Gregorowicz, J., Trybuś, P. with: Chuderski, B., Baryżewska, K., Jamroży, A., Janikowska, L., Nasiek, A., Włodarczyk, A. (2013). Plan Zrównoważonego Rozwoju Publicznego Transportu Zbiorowego (PZRPTZ) Dla M. Jaworzno. INKOM, Katowice. Appendix no. 1 to: Uchwała Nr X/120/2015 Rady Miejskiej w Jaworznie z dnia 25 czerwca 2015 r. Available at: http://dzienniki.slask.eu/WDU_S/2015/3842/akt.pdf (accessed on 17 January 2021). [in Polish]
8	Krajowy Program Bezpieczeństwa Ruchu Drogowego 2005–2007–2013. Gambit 2005. (2005). Ministry of Infrastructure, Warsaw. Document approved by the Council of Ministers at the meeting on April 19, 2005. [online]. Available at: https://www.embud.szczecin.pl/pdf/gambit.pdf (accessed on 20 January 2021). [in Polish]
9	Ministry of Infrastructure and Construction, National Road Safety Council. (2017). Raport końcowy z śródkresowego badania ewaluacyjnego Narodowego Programu Bezpieczeństwa Ruchu Drogowego na lata 2013–2020, Opole. Prepared by Instytut Badawczy IPC Sp. z o.o., Openfield Sp. z o.o. [online] Available at: https://www.krbrd.gov.pl/wp-content/uploads/2020/11/Raport-ewaluacja-NPBRD-2013--2020.pdf (accessed on 20 January 2021). [in Polish]
10	Narodowy Program Bezpieczeństwa Ruchu Drogowego 2013–2020. (2013). National Road Safety Council, Ministry of Infrastructure, Warsaw. [online]. Available at: https://www.krbrd.gov.pl/wp-content/uploads/2020/11/KRBRD-Program-P1a-20140422-S4-K1-PL.pdf (accessed on 20 January 2021). [in Polish]
11	The Polish Geological Institute (2004). Program Ochrony Środowiska dla Miasta Jaworzna na lata 2004–2015. By Appendix no. 1. to: Uchwała Nr XXI/222/2004 Rady Miejskiej w Jaworznie z dnia 4 marca 2004 r. w sprawie “Programu Ochrony Środowiska dla miasta Jaworzna na lata 2004–2015” oraz “Planu Gospodarki Odpadami dla miasta Jaworzna—miasta na prawach powiatu na lata 2004–2015”. Available at: http://www.bip.jaworzno.pl/a,18083,uchwala-nr-xxi2222004.html (accessed on 16 October 2020). [in Polish]
12	Mayor of Jaworzno, Jaworzno City Council (2007). Strategia Zintegrowanego i Zrównoważonego Rozwoju Jaworzna na lata 2001–2020. Appendix to: Uchwała Nr IX/85/2007 Rady Miejskiej w Jaworznie z dnia 31 maja 2007 r. w sprawie Strategii Zintegrowanego i Zrównoważonego Rozwoju Jaworzna na lata 2001–2020. Available at: http://www.bip.jaworzno.pl/a,19879,strategia-zintegrowanego-i-zrownowazonego-rozwoju-jaworzna-na-lata-2001--2020.html (accessed on 17 January 2021). [in Polish]

References

1. Komornicki, T. Factors of development of car ownership in Poland. *Transp. Rev.* **2003**, *23*, 413–431. [\[CrossRef\]](#)
2. Bartosiewicz, B.; Pielesiak, I. Spatial patterns of travel behaviour in Poland. *Travel Behav. Soc.* **2019**, *15*, 113–122. [\[CrossRef\]](#)
3. Kaygisiz, Ö.; Senbil, M.; Yildiz, A. Influence of urban built environment on traffic accidents: The case of Eskisehir (Turkey). *Case Stud. Transp. Policy* **2017**, *5*, 306–313. [\[CrossRef\]](#)
4. Metz, D. Tackling urban traffic congestion: The experience of London, Stockholm and Singapore. *Case Stud. Transp. Policy* **2018**, *6*, 494–498. [\[CrossRef\]](#)
5. Pokorný, P.; Pritchard, R.; Pitera, K. Conflicts between bikes and trucks in urban areas—A survey of Norwegian cyclists. *Case Stud. Transp. Policy* **2018**, *6*, 147–155. [\[CrossRef\]](#)
6. Canitez, F.; Alpkokin, P.; Kiremitci, S.T. Sustainable urban mobility in Istanbul: Challenges and prospects. *Case Stud. Transp. Policy* **2020**, *8*, 1148–1157. [\[CrossRef\]](#)
7. Lamour, Q.; Morelli, A.M.; de Marins, K.R.C. Improving walkability in a TOD context: Spatial strategies that enhance walking in the Belém neighbourhood, in São Paulo, Brazil. *Case Stud. Transp. Policy* **2019**, *7*, 280–292. [\[CrossRef\]](#)
8. Regmi, M.B. Measuring sustainability of urban mobility: A pilot study of Asian cities. *Case Stud. Transp. Policy* **2020**, *8*, 1224–1232. [\[CrossRef\]](#)
9. Roy, S.; Cooper, D.; Mucci, A.; Sana, B.; Chen, M.; Castiglione, J.; Erhardt, G.D. Why is Traffic Congestion Getting Worse? A Decomposition of the Contributors to Growing Congestion in San Francisco. *Case Stud. Transp. Policy* **2020**, *8*, 1371–1382. [\[CrossRef\]](#)
10. Church, A.; Frost, M.; Sullivan, K. Transport and social exclusion in London. *Transp. Policy* **2000**, *7*, 195–205. [\[CrossRef\]](#)
11. Lucas, K. Transport and social exclusion: Where are we now? *Transp. Policy* **2012**, *20*, 105–113. [\[CrossRef\]](#)
12. Banister, D. The sustainable mobility paradigm. *Transp. Policy* **2008**, *15*, 73–80. [\[CrossRef\]](#)
13. Pojani, D.; Stead, D. Sustainable Urban Transport in the Developing World: Beyond Megacities. *Sustainability* **2015**, *7*, 7784–7805. [\[CrossRef\]](#)
14. Holden, E.; Banister, D.; Gössling, S.; Gilpin, G.; Linnerud, K. Grand Narratives for sustainable mobility: A conceptual review. *Energy Res. Soc. Sci.* **2020**, *65*, 101454. [\[CrossRef\]](#)
15. Greene, D.L.; Wegener, M. Sustainable transport. *J. Transp. Geogr.* **1997**, *5*, 177–190. [\[CrossRef\]](#)
16. Nieuwenhuijsen, M.J. Urban and transport planning pathways to carbon neutral, liveable and healthy cities; A review of the current evidence. *Environ. Int.* **2020**, *140*, 105661. [\[CrossRef\]](#)
17. Khalaj, F.; Pojani, D.; Sipe, N.; Corcoran, J. Why are cities removing their freeways? A systematic review of the literature. *Transp. Rev.* **2020**, *40*, 1–24. [\[CrossRef\]](#)
18. Aftabuzzaman, M.; Mazloumi, E. Achieving sustainable urban transport mobility in post peak oil era. *Transp. Policy* **2011**, *18*, 695–702. [\[CrossRef\]](#)
19. Kamargianni, M.; Li, W.; Matyas, M.; Schäfer, A. A Critical Review of New Mobility Services for Urban Transport. *Transp. Res. Procedia* **2016**, *14*, 3294–3303. [\[CrossRef\]](#)
20. McCarthy, O.T.; Caulfield, B.; Deenihan, G. Evaluating the quality of inter-urban cycleways. *Case Stud. Transp. Policy* **2016**, *4*, 96–103. [\[CrossRef\]](#)
21. Rojas López, M.C.; Wong, Y.D. Attitudes towards active mobility in Singapore: A qualitative study. *Case Stud. Transp. Policy* **2017**, *5*, 662–670. [\[CrossRef\]](#)
22. Ermagun, A.; Samimi, A. Potential cost savings of promoting active travel to school. *Case Stud. Transp. Policy* **2018**, *6*, 167–177. [\[CrossRef\]](#)
23. Štraub, D.; Jaroš, V. Free fare policy as a tool for sustainable development of public transport services. *Hum. Geogr. J. Stud. Res. Hum. Geogr.* **2019**, *13*, 45–59. [\[CrossRef\]](#)
24. Félix, R.; Cambra, P.; Moura, F. Build it and give ‘em bikes, and they will come: The effects of cycling infrastructure and bike-sharing system in Lisbon. *Case Stud. Transp. Policy* **2020**, *8*, 672–682. [\[CrossRef\]](#)
25. Vicente, P.; Sampaio, A.; Reis, E. Factors influencing passenger loyalty towards public transport services: Does public transport providers’ commitment to environmental sustainability matter? *Case Stud. Transp. Policy* **2020**, *8*, 627–638. [\[CrossRef\]](#)
26. Flores, M.; Park, P.Y.; Gardiner, A.; Nyen, J. A high-level traffic safety policy document for a small municipality: City of Saskatoon case study. *Case Stud. Transp. Policy* **2015**, *3*, 372–381. [\[CrossRef\]](#)
27. Ding, C.; Cao, X. How does the built environment at residential and work locations affect car ownership? An application of cross-classified multilevel model. *J. Transp. Geogr.* **2019**, *75*, 37–45. [\[CrossRef\]](#)
28. Cao, X.J.; Naess, P.; Wolday, F. Examining the effects of the built environment on auto ownership in two Norwegian urban regions. *Transp. Res. Part D Transp. Environ.* **2019**, *67*, 464–474. [\[CrossRef\]](#)
29. Kuo, P.-F.; Lord, D. A promising example of smart policing: A cross-national study of the effectiveness of a data-driven approach to crime and traffic safety. *Case Stud. Transp. Policy* **2019**, *7*, 761–771. [\[CrossRef\]](#)
30. Xylia, M.; Silveira, S. On the road to fossil-free public transport: The case of Swedish bus fleets. *Energy Policy* **2017**, *100*, 397–412. [\[CrossRef\]](#)
31. Burghardt, T.E.; Pashkevich, A.; Mosböck, H. Yellow pedestrian crossings: From innovative technology for glass beads to a new retroreflectivity regulation. *Case Stud. Transp. Policy* **2019**, *7*, 862–870. [\[CrossRef\]](#)

32. Konečný, V.; Gnap, J.; Settey, T.; Petro, F.; Skrúcaný, T.; Figlus, T. Environmental Sustainability of the Vehicle Fleet Change in Public City Transport of Selected City in Central Europe. *Energies* **2020**, *13*, 3869. [\[CrossRef\]](#)
33. Kaparias, I.; Liu, P.; Tsakarestos, A.; Eden, N.; Schmitz, P.; Hoadley, S.; Hauptmann, S. Predictive road safety impact assessment of traffic management policies and measures. *Case Stud. Transp. Policy* **2019**, *8*, 508–516. [\[CrossRef\]](#)
34. Coppola, P.; Silvestri, F. Assessing travelers' safety and security perception in railway stations. *Case Stud. Transp. Policy* **2020**, *8*, 1127–1136. [\[CrossRef\]](#)
35. Santhosh, D.; Bindhu, B.K.; Koshy, B.I. Evaluation of pedestrian safety in unsignalized T and X—Intersections through comparison of the frequency and severity of pedestrian conflicts. *Case Stud. Transp. Policy* **2020**, *8*, 1352–1359. [\[CrossRef\]](#)
36. Al Bargi, W.A.; Daniel, B.D. Modelling Pedestrians' utilization of crossing facilities along urban streets. *Case Stud. Transp. Policy* **2020**, *8*, 593–598. [\[CrossRef\]](#)
37. Noland, R.B.; Gao, D.; Gonzales, E.J.; Brown, C. Costs and benefits of a road diet conversion. *Case Stud. Transp. Policy* **2015**, *3*, 449–458. [\[CrossRef\]](#)
38. Tingvall, C.; Haworth, N. Vision Zero—An ethical approach to safety and mobility. In Proceedings of the 6th ITE International Conference Road Safety & Traffic Enforcement: Beyond 2000, Melbourne, Australia, 6–7 September 1999.
39. Belin, M.-Å.; Tillgren, P.; Vedung, E. Vision Zero—A road safety policy innovation. *Int. J. Inj. Control. Saf. Promot.* **2012**, *19*, 171–179. [\[CrossRef\]](#)
40. Larsson, P.; Dekker, S.W.A.; Tingvall, C. The need for a systems theory approach to road safety. *Saf. Sci.* **2010**, *48*, 1167–1174. [\[CrossRef\]](#)
41. Kim, E.; Muennig, P.; Rosen, Z. Vision Zero: A toolkit for road safety in the modern era. *Inj. Epidemiol.* **2017**, *4*, 1. [\[CrossRef\]](#)
42. Jażdżik-Osmólska, A.; Korneć, R. *Wycena Kosztów Wypadków I Kolizji Drogowych na Sieci Dróg W Polsce na Koniec Roku 2018, Z Wyodrębnieniem Średnich Kosztów Społeczno-Ekonomicznych Wypadków na Transeuropejskiej Sieci Transportowej*; Krajowa Rada Bezpieczeństwa Ruchu Drogowego: Warszawa, Poland, 2019.
43. Polish Road Safety Observatory. Available online: <http://www.obserwatoriumbrd.pl/> (accessed on 20 June 2021).
44. Skoczyński, P. Bezpieczeństwo Ruchu Drogowego w Polsce w 2020 Roku: Analiza Danych o Wypadkach Drogowych. *Kwartalnik BRD* **2021**, 1–2. Available online: <https://www.obserwatoriumbrd.pl/resource/81765926-80ab-4ddf-8782-451d4a9300fa:JCR> (accessed on 2 August 2021).
45. EUROPEAN MOBILITY WEEK. Available online: <https://mobilityweek.eu/urban-road-safety-award/> (accessed on 16 June 2021).
46. Kristianssen, A.-C.; Andersson, R.; Belin, M.-Å.; Nilsen, P. Swedish Vision Zero policies for safety—A comparative policy content analysis. *Saf. Sci.* **2018**, *103*, 260–269. [\[CrossRef\]](#)
47. Zwetsloot, G.; Leka, S.; Kines, P. Vision Zero: From accident prevention to the promotion of health, safety and well-being at work. *Policy Pract. Health Saf.* **2017**, *15*, 88–100. [\[CrossRef\]](#)
48. Šucha, M. Vision Zero from the Perspective of Traffic Psychology. *Trans. Transp. Sci.* **2014**, *7*, 1–8. [\[CrossRef\]](#)
49. Elvebakk, B. Vision Zero: Remaking Road Safety. *Mobilities* **2007**, *2*, 425–441. [\[CrossRef\]](#)
50. Johansson, R. Vision Zero—Implementing a policy for traffic safety. *Saf. Sci.* **2009**, *47*, 826–831. [\[CrossRef\]](#)
51. McCarthy, K. The Swedish “Vision Zero” Program. Available online: <https://www.cga.ct.gov/2007/rpt/2007-R-0635.htm> (accessed on 15 June 2021).
52. Jamroz, K.; Budzyński, M.; Romanowska, A.; Żukowska, J.; Oskarbski, J.; Kustra, W. Experiences and Challenges in Fatality Reduction on Polish Roads. *Sustainability* **2019**, *11*, 959. [\[CrossRef\]](#)
53. Welle, B.; Sharpin, A.B.; Adiazola-Steil, C.; Bhatt, A.; Alveano, S.; Obelheiro, M.; Imamoglu, C.T.; Job, S.; Shotten, M.; Bose, D. *Sustainable and Safe: A Vision and Guidance for Zero Road Deaths*; World Resources Institute: Washington, DC, USA, 2018.
54. Naumann, R.B.; Kuhlberg, J.; Sandt, L.; Heiny, S.; Apostolopoulos, Y.; Marshall, S.W.; Lich, K.H. Integrating complex systems science into road safety research and practice, part 1: Review of formative concepts. *Inj. Prev.* **2019**, *26*, 177–183. [\[CrossRef\]](#)
55. Wegman, F.; Aarts, L.; Bax, C. Advancing sustainable safety. *Saf. Sci.* **2008**, *46*, 323–343. [\[CrossRef\]](#)
56. Hughes, B.; Falkmer, T.; Anund, A. The Relevance of Australasian Road Safety Strategies in a Future Context Key Findings. *J. Australas. Coll. Road Saf.* **2019**, *30*, 34–45. [\[CrossRef\]](#)
57. Malik, S.; Swapn, M.S.H.; Khan, S. Sustainable Mobility through Safer Roads: Translating Road Safety Strategy into Local Context in Western Australia. *Sustainability* **2020**, *12*, 8929. [\[CrossRef\]](#)
58. Erke, A.; Elvik, R. *Making Vision Zero Real: Preventing Pedestrian Accidents and Making Them Less Severe*; Transportøkonomisk Institutt: Oslo, Norway, 2007; ISBN 9788248007494.
59. Siegrist, S. Towards a method to forecast the effectiveness of national road safety programmes. *Saf. Sci.* **2010**, *48*, 1106–1110. [\[CrossRef\]](#)
60. Jamroz, K.; Michalski, L.; Żukowska, J. Polish Experience of Implementing Vision Zero. *Curr. Trauma Rep.* **2017**, *3*, 111–117. [\[CrossRef\]](#)
61. Tosza, T. Bezpieczeństwo ruchu drogowego w Jaworznie. O tym, jak inżynieria naprawia zaniechania ewolucji. *Kwart. Policyjny* **2019**, *4*, 17–23, Centrum Szkolenia Policji, Legionowo, Poland.
62. Kancelaria Sejmu. Prawo Oruchu Drogowym. 1997. Available online: <https://isap.sejm.gov.pl/isap.nsf/download.xsp/WDU19970980602/U/D19970602Lj.pdf> (accessed on 2 August 2021).
63. Symon, E. *Wypadki Drogowe w 2019 Roku*; Komenda Główna Policji, Biuro Ruchu Drogowego: Warsaw, Poland, 2020.

64. Chomiuk, M. Anna Zielińska: Zmiana Przepisów Powinna Mieć Istotny Wpływ na Mniejszą Liczbę Zabitych Piesznych. Available online: <https://www.pap.pl/aktualnosci/news%2C881929%2Canna-zielinska-zmiana-przepisow-powinna-miec-istotny-wplyw-na-mniejsza> (accessed on 21 July 2021).
65. Krajowa Rada Bezpieczeństwa Ruchu Drogowego. *Program Realizacyjny na rok 2020 do Narodowego Programu Bezpieczeństwa Ruchu Drogowego 2013–2020*; Ministerstwo Infrastruktury i Budownictwa: Warszawa, Poland, 2020.
66. Michalski, L.; Jamroz, K.; Gajda, D. A Preliminary Interim Evaluation of the National Road Safety Programme Gambit 2005. *Transp. Miej. Reg.* **2012**, *4*, 13–19.
67. Jamroz, K.; Kustra, W.; Żukowska, J. Wyzwania i kierunki działań na rzecz bezpieczeństwa ruchu drogowego w nadchodzącej dekadzie w Polsce. *Transp. Miej. Reg.* **2017**, *1*, 5–14.
68. Ministry of Infrastructure and Construction. National Urban Policy. In *Krajowa Polityka Miejska 2023*; Ministerstwo Infrastruktury: Warszawa, Poland, 2015.
69. Zielińska, A.; Górny, P. KRAJOWA POLITYKA MIEJSKA 2030—Karta Rozwiązania: Wizja Zero—Systemowe, Zintegrowane Działania Mające na celu (w Długiej Perspektywie) Uzyskanie Zero Ofiar Śmiertelnych i Ciężko Rannych w Wypadkach Drogowych; Instytut Rozwoju Miast i Regionów: Warszawa, Poland, 2021.
70. Jacobson, R.D. Naturalistic Testing. In *International Encyclopedia of Human Geography*; Thrift, N., Kitchin, R., Eds.; Elsevier: Amsterdam, The Netherlands, 2009; pp. 269–274, ISBN 9780080449104.
71. Centre for Public Impact. *The Public Impact Fundamentals Framework*. Diagnostic Tool, December 2018.
72. Dunn, W. *Public Policy Analysis: An Introduction*; University Pittsburgh Prentice Hall: Upper Saddle River, NJ, USA, 1994.
73. Vedung, E. *Public Policy and Program Evaluation*; Transaction Publishers: Piscataway, NJ, USA, 1997.
74. Pistelok, P. Dąbrowski Budżet Partycypacyjny (2.0.). *Dobra Praktyka*. Available online: <http://obserwatorium.miasta.pl/dabrowski-budzet-partycypacyjny-2-0-dobra-praktyka/> (accessed on 17 June 2021).
75. GUS-Bank Danych Lokalnych. *Population*; GUS-Bank Danych Lokalnych, Główny Urząd Statystyczny: Warszawa, Poland, 2010–2019. Available online: <https://bdl.stat.gov.pl/BDL/start> (accessed on 2 August 2021).
76. ETSC. European Transport Safety Council Road Deaths in the European Union—Latest Data. Available online: <https://etsc.eu/euroadsafetydata/> (accessed on 20 June 2021).
77. Pawłowski, Ł. Trzy Tysiące Trumien Rocznie. Available online: <https://kulturaliberalna.pl/2019/11/12/tomasz-tosza-jaworzno-wypadki-ruch-drogowy-bezpieczenstwo/> (accessed on 19 January 2021).
78. Matters, T. Vision Zero for London. Available online: <https://tfl.gov.uk/corporate/safety-and-security/road-safety/vision-zero-for-london> (accessed on 2 February 2021).
79. Vision Zero Network. What Is the Vision Zero Network? Available online: <https://visionzeronetwork.org/about/vision-zero-network/> (accessed on 13 July 2021).
80. Vision Zero Network Taming Speed for Safety: Portland Case Study. Available online: <https://visionzeronetwork.org/project/taming-speed-for-safety-portland-case-study/> (accessed on 3 August 2021).
81. Szary, P. Velostrada to Nowa Droga Rowerowa w Jaworznie. Nie do Końca ją Przemyślano. Available online: <https://spidersweb.pl/autoblog/velostrada-autostrada-dla-rowerow/> (accessed on 17 January 2021).
82. Salata-Kochanowski, P. Jaka Jest Optymalna Liczba Zabitych na Drogach? Jaworzno Mówi-ZERO [DOBRA PRAKTYKA]. Available online: <http://obserwatorium.miasta.pl/jaka-jest-optymalna-liczba-zabitych-na-drogach-jaworzno-mowi-0-dobra-praktyka-wizja-zero/> (accessed on 20 June 2020).
83. Czapiński, J. Indywidualna jakość i styl życia. Diagnoza Społeczna 2015, Warunki i Jakość Życia Polaków-Rapor. *Contemp. Econ.* **2015**, *9*. [CrossRef]
84. Czapiński, J. Jakość życia w Polsce—wygrani i przegrani. Diagnoza Społeczna 2015, Warunki i Jakość Życia Polaków-Rapor. *Contemp. Econ.* **2015**, *9*. [CrossRef]
85. Biostat. *Badanie Opinii Mieszkańców Jaworzna o Stanie Miasta, Warunkach Życia i Oczekiwaniach Wobec Władz Miejskich*; Biostat: Warszawa, Poland, 2018.
86. Admin UMOWA WYBORCZA NA LATA 2014–2018-Stowarzyszenie Jaworzno Moje Miasto. Available online: <http://jmm.jaworzno.pl/index.php/2014/10/29/program-na-lata-2014-2018/> (accessed on 17 January 2021).
87. Silbert, P. Program na Lata 2014–2018. Available online: <http://beta.jmm.jaworzno.pl/umowa-wyborcza/2-uncategorised/140-program-na-lata-2014-2018> (accessed on 17 January 2021).
88. Tosza, T. Debile Nastawiali Znaków Ograniczeń Prędkości [FELIETON]. Available online: <https://obserwatorgospodarczy.pl/komentarze-i-analizy/934-debile-nastawiali-znakow-ograniczen-predkosci-felieton> (accessed on 17 June 2021).
89. Warzecha, Ł. Kierowca Jako Śmiertelny Wróg, Czyli Emocje Zamiast Rozumu. Available online: <https://wei.org.pl/article/emocje-i-populizm/> (accessed on 16 December 2020).
90. Redakcja jaw.pl. Rowerowy Ekspert: Sorry, to Są Żenujące Pomysły. Tu Wszystko Jest Zrobione Źle. Available online: <https://jaw.pl/2020/07/rowerowy-ekspert-sorry-to-sa-zenujace-pomysly-tu-wszystko-jest-zrobione-zle/> (accessed on 17 June 2021).
91. Hyła, M. Jaworzno: Chyba Coś Nie Pykło. Rowerowa Gigantomania i Rowerowe Pustki. Available online: <https://www.facebook.com/media/set/?set=a.3647835615243978&type=3> (accessed on 18 January 2021).
92. Chrapek, J. Czy w Historycznym Centrum Miasta “Wizji Zero” Powinien Odbywać Się Przelotowy Ruch Samochodów? Available online: <https://zmnj.wordpress.com/2020/05/25/czy-w-historycznym-centrum-miasta-wizji-zero-powinien-odbywac-sie-przelotowy-ruch-samochodow/#more-2082> (accessed on 16 December 2020).

-
93. Gertler, M.S. Rules of the Game: The Place of Institutions in Regional Economic Change. *Reg. Stud.* **2010**, *44*, 1–15. [[CrossRef](#)]
 94. Gertler, M.S. Path Creation as a Process of Mindful Deviation. In *Path Dependence and Creation*; Garud, R., Karnøe, P., Eds.; Lawrence Erlbaum Associates: Mahwah, NJ, USA, 2001.
 95. Sotarauta, M.; Pulkkinen, R. Institutional Entrepreneurship for Knowledge Regions: In Search of a Fresh Set of Questions for Regional Innovation Studies. *Environ. Plan. C Gov. Policy* **2011**, *29*, 96–112. [[CrossRef](#)]
 96. Haasnoot, M.; Kwakkel, J.H.; Walker, W.E.; Ter Maat, J. Dynamic adaptive policy pathways: A method for crafting robust decisions for a deeply uncertain world. *Glob. Environ. Chang.* **2013**, *23*, 485–498. [[CrossRef](#)]
 97. Wilson, J. *Post-Political and Its Discontents: Spaces of Depoliticisation, Spectres of Radical Politics*; Edinburgh University Press: Edinburgh, UK, 2014.
 98. Legacy, C. The post-politics of transport: Establishing a new meeting ground for transport politics. *Geogr. Res.* **2017**, *56*, 196–205. [[CrossRef](#)]
 99. Carr, C.; Hesse, M. Mobility policy through the lens of policy mobility: The post-political case of introducing free transit in Luxembourg. *J. Transp. Geogr.* **2020**, *83*, 102634. [[CrossRef](#)]