

CHALLENGES AND ACTIVITIES RELATED TO PEDESTRIAN PROTECTION ON ROADS IN POLAND

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Where are we?

In 1991 - 7901 fatalities in PL, in 2021 - 2245 fatalities: 70 % reduction. In 2004 (PL join EU), during 18 years :

- several times PL was the worst in EU,
- In 2021 was 4th the worst in UE after France, Italy and Germany.
- despite everything number of fatalities decreased by 60% (from 5640 to 2245 fatalities).



Where are we?

The Road Fatality Rate (RFR) decreased from 145 to 58 deaths / 1 million inhabitants. The RFR in Poland is lower only than Romania, Bulgaria, Greece, Croatia and Latvia. Unfortunately, the risk of being fatal in Poland is:
30% higher than the EU average,
and more than twice as high as in Sweden, Ireland and Denmark.



1. Since the beginning of the political transformation (1989), 5 National RS Programs have been prepared, 4 have been completed.

2. In the 3th NRSP – called GAMBIT 2005, Vision Zero was adopted.

3. The systemic approach to the implementation Vison Zero resulted in a reduction in the number of fatalities and the risk of accidents on Polish roads.

4. About 50,000 people have been saved from death in road accidents, and many hundreds of thousands have escaped injuries and losses.

5. The highest rate of reduction of fatalities (2007-2010), over 600 fatalities per year, when parallel activities were carried out at the central, sectoral (police, fire brigade, central road administration, media) regional and local level.

6. Verry positive effect has brought;

- legal changes,
- decreasing speed limits,
- Introduction of an automatic speed supervision system,
- new expressways and motorways,
- introduction of RISM procedures,
- increasing the protection of pedestrians and cyclists,
- development of education and social communication, etc.

What have we done ?



1. Fatalities: (various types and circumstances) [% of fatalities]:

- Driving at dangerous speeds 35%,
- National roads 30%,
- Pedestrians 24%,
- Roads in an area not lit at night 20%,
- Rigid road surroundings 15%,
- Intersections 14%.

2. Between 1999 – 2021, the number of pedestrian fatalities on the roads decreased from over 2450 to 530 people, i.e. by almost 80%.

3. Compared to European countries, this is the largest number of pedestrians killed, which unfortunately places Poland in the first place in the EU.

4. In addition, it should be noted that, apart from side collisions, pedestrians are also the dominant group of seriously injured victims (approx. 3,000 per year).

What are the Challenges ?





Pedestrian safety in Poland compared to EU countries

Problems.

The lower level of pedestrian safety in Poland compared to other countries such as Sweden, Germany and the Czech Republic results from many factors, in particular:

- low level of priority for pedestrians at the "zebra" type crossing (no priority for pedestrians reaching the crossing),
- a large number of zebra crossing, mainly as:
 - unsignalized crossings on two-lane and multi-lane streets,
 - also outside of urban roads,
 - On high speed roads (more than 50 km/h)
- not using suggested pedestrian crossing;
- Limited use of collision-free crossings when flows of vehicles and pedestrians with very high traffic volumes or very high speed of vehicles on the road.

Challenges.

Taking into account the high effectiveness of the applied traffic rules and infrastructure solutions enabling pedestrians to move on the roads and streets of many EU countries (Sweden, the Netherlands, Germany), actions should be taken to:

- improvement of the system of planning and designing pedestrian infrastructure, development of new standards for pedestrian infrastructure design,
- using more construction and organizational solutions,
- zoning of traffic by introducing Tempo 30 zones, residential zones,
- changing the rules of pedestrian movement on roads and streets in Poland (increasing the priority for pedestrians),



Significant progress in reducing the number of pedestrian casualties during this period was made on roadways as a result of:

- increasing the separation of pedestrian traffic from vehicles (through the construction of roads and sidewalks for pedestrians along streets and urban roads),
- the extension of low-speed areas (zone 30 and residential zones) in cities,
- the use of reflective elements by pedestrians moving on the roadways,
- reconstruction of pedestrian crossings.

Unfortunately, there is practically no improvement in reducing the number of accident victims at pedestrian crossings.

Is it enough ?

Pedestrian safety: How we did it?



Pedestrian safety in Poland

Risk analysis indicates that there is a high risk of pedestrian safety:

- in southern and eastern regions with high population density,
- a significant proportion of pedestrian accidents are concentrated in urban areas,
- the high severity of pedestrian accidents occurs outside of urban roads,
- roadways (60% fatal accidents (FA)), at pedestrian crossings (30% FA),
- in conditions of reduced visibility (75% FA), on unlit roads (40 % FA)
- due to dangerous behavior of drivers;
 - failure to give priority (60 % FA), driving at dangerous speeds (more than 50 % of drivers exceed the speed limit),
- due to planning and design errors, poor signage or maintenance of pedestrian crossing equipment

The biggest risk group are seniors and adults





Necessary actions to improve pedestrian safety in Poland

The organization and management of pedestrian traffic is a multidisciplinary issue, which is why it is necessary in Poland to systematize possible actions and indicate the most effective and effective ones. A simplified taxonomy of actions to improve pedestrian safety was adopted:

- Directions of activities carried out:
 - improvement of area traffic management and spatial planning,
 - development and improvement of safe pedestrian infrastructure,
 - improving the perception of road users, developing education for pedestrians and drivers,
 - traffic supervision,
 - improvement of vehicle design.
- Ways of doing things:
 - elimination or reduction of areas of conflict "pedestrian vehicle",
 - reducing the consequences of accidents with pedestrians,
- Means to carry out tasks:
 - management tools,
 - pedestrian infrastructure,
- Implementers:
 - road safety management bodies,
 - road authorities,
 - universities and research units.



Measures to improve pedestrian safety in Poland. Examples of actions – Planning, Designing, Maintenance

Guidelines and standards. At the request of the Minister of Infrastructure, the consortium of universities and road design offices has prepared a set of new guidelines and standards, including "Guidelines for designing pedestrian infrastructure".

These guidelines consist of 4 parts. In the course of proceedings are: Part 1: Guidelines for planning a network of pedestrian routes (WRD-41.1),

□ Part 2: Guidelines for the design of pedestrian roads (WRD-41.2),

Recommended in March 2021 by the Minister for use are:

Part 3: Guidelines for the design of pedestrian crossings (WRD-41.3),
 Part 4: Guidelines for lighting pedestrian crossings (WRD-41.4).







Measures to improve pedestrian safety in Poland. Examples of actions – Law

1. June **2021** - Pedestrian priority was established over a vehicle when entering a pedestrian crossing.

2. January 2022 - Updating the tariff of road fines. A 10-time increase in the maximum fine from 100 to 1000 euros.

Exceeding the speed limit:

- 10 km/h 10 €.
- 11-15 km/h 20 €
- 16-20 km/h 40 €
- 21-25 km/h 60 €
- 26-30 km/h 80 €
- 31-40 km/h 160 € / 320 €*
- 41-50 km/h 200 € / 400 €*
- 51-60 km/h 300 € / 600 €*
- 61-70 km/h 400 € / 800 €*.
- 71 km/h and more 500 € / 1000 €*
- *double penalty for re-offending within 2 years
- 3. September 2022 The Minister of Infrastructure issued a regulation according to whose:
- marked (unsignalized) pedestrian crossings can be made only on roads with no more than two lanes in two directions,
- marked (unsignalized) pedestrian crossing may be implemented only up to the speed limit of 50 km/h,
- pedestrian crossing by the road with two or more lanes in the same direction must be signalized,
- signalized pedestrian crossing can only be implemented up to the speed limit of 70 km/h,
- unmarked (suggested) pedestrian crossing was introduced for the first time in Polish law.
- 4. December 2022 Confiscation of the car when:
- the driver has more than 1.5 per mille of alcohol in the blood,
- the driver has more than 0.5 per mille of alcohol in the blood and will cause an accident



- 1. Pedestrian Safety Inspection method
- In in 2016 a Polish method for (unsignalized) pedestrian crossing safety inspection was developed.
- In in 2016 a Polish method of evaluating the illumination of pedestrian crossings was developed.
- 2. Method of PC inspection and illumination of PC is a part of Road Safety Auditor Course since 2017.

3. Between 2016 – 2021 Warsaw City has conducted Road safety inspection and illumination evaluation on 4500 PC and from 2018 start to reconstruct and reorganized those PC

4. National Roads Authorities used this method and tested at 3260 PC

5. Other cities start to use this method



1. Warsaw city only in 2019/2020 Warsaw rebuilt 170 pedestrian crossings in line with the inspection's recommendations and continues to do so

Measures to improve pedestrian safety in Poland.

Examples of actions – Reconstruct

2. National Roads Authorities implements a program to improve the safety of pedestrian crossings worth EUR 500 milion (11 000 PC on national roads)



Examples of actions – RS Inspection

Scope

Population – 1,8 mln Districts - 18 PC investigated -4093 -2016:2020Term Auditors -11 ->10 years experience road authorities academics road designers **Other Staff** $- \sim 30$

Warsaw was nominated to **2021 EU Urban Road Safety Award** for unique audit methodology and implementation in practice.



Warsaw Road Administration





 Implement PC proactive safety management

DATABASE OF ROAD ACCIDENTS

CONFLICTS ANALYSIS

LOCAL ANALYSIS

INSPECTION / AUDIT

- Identify hazards
- Indicate treatment plan





PEDESTRIAN CROSSINGS LIGHTING AUDIT

17



VISIBILITY

ROAD SIGNS

HAZARDS

GEOMETRY

OTHER

ACCESSIBILITY

Lack or inadequate facilities for the disabled and people with special needs – ramp Lack or inadequate facilities for the disabled – blind facilities

VISIBILITY

Parked cars Poles, fances Bus/Tram stops Plants Buildings, obstacles ROAD SIGNS AND MARKIGS

Road signs - lack, incomplete, bad condition Road signs – hidden Markings - lack, incomplete, faded

GEOMETRY

Unprotected pedestrian on the edge of road Too small refugees island for pedestrian Too long crossing/ 3 lanes or more, too wide lanes Hazard caused by street geometry Markings not protecting pedestrians OTHERS

Gully in crossing area, inadequate road drainage High or very high speed of cars Poor surface condition Incomplete pavements Unnecessary crossing Others - not defined





Hazards





Risk matrix

Volume of cars

Volume of pedestrians

Lack of visibility

length of the pedestrian crossing





RISK SCORE







Recommendations



Noremarks

other unusual not defined



Implementation

2020 – 104 PC renovated 2021-63 PC renovated



Legend









Shorter PC



eliminate cars from visibility area

Traffic light

*

rondabout

	przy Konstrukt
10.	Dzieci Wa

2021

2

3.

6

8

11

12

13

14

15.

Street

Meissnera przy 21 PP Ozłeci Warszawy, Jantarowym Szlaku i Witoszyńskiego

przy Rechniewskiego I Złotej Wilgi

Umińskiego

Mickiewicza przy Mścisławskiej, Bohomolca i Kątowej	8	000000000	Ecs.
Łopuszańska przy Czereśniowej	1	٥	1 00
Wybrzeże Szczecińskie przy Olszowej i Okrzel	4	0000	₿ ⊒=
Połczyńska przy Lustrzanej	2	00	8
Marszałkowska przy Senatorskiej	3	000	() ==
Chłopickiego przy Boremiowskiej i Makowskiej	2	00	- -
Postępu przy Konstruktorskiej	2	00	*
Dzieci Warszawy przy Szancera	1	0	4
Ostroroga przy budynku Ostroroga 35	1	0	•
Rakowiecka przy Kieleckiej	1	0	-926 -
Wiatraczna przy Prochowej	2		- 6 - 6
Saska przy Lotaryńskiej	1	0	100
Płochocińska przy przystanku "Cementownia 02"	1	0	4

PC

9

6

Audit risk score

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Warsaw Road Administration

Solution

100

ECZ.

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SUMMARY

- Pedestrian safety is gradually improving in Poland
- Pedestrian crossing safety is not improving fast enough
- New legal tools, safety management and funding give hope for a rapid improvement in pedestrian safety



THANK YOU FOR YOUR ATTENTION

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