



Lodz University
of Technology

MOBILITY INEQUALITY IN A SMALL TOWN IN CENTRAL POLAND

The case study of Zgierz

M.Eng. Bartłomiej Olczak

Interdisciplinary Doctoral School

Architecture and Urban planning

Faculty of Civil Engineering, Architecture and Environmental Engineering

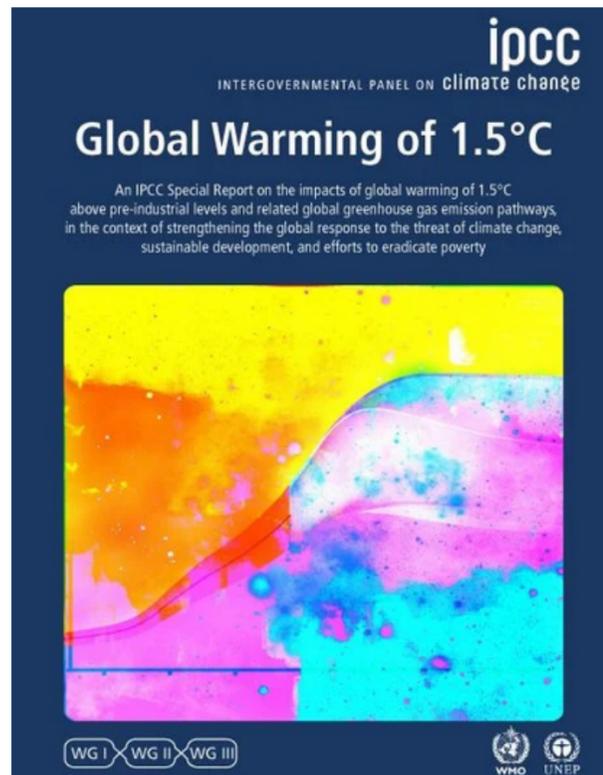
PRESENTATION OUTLINE

1. Introduction
2. Research background
3. Case study of Zgierz:
 - a. Transport exclusion
 - b. Space distribution
 - c. Road traffic injuries
 - d. Consequences of pollution
4. Recommendations and conclusion

The 17 Sustainable Development Goals



International documents



Transport problems in Poland

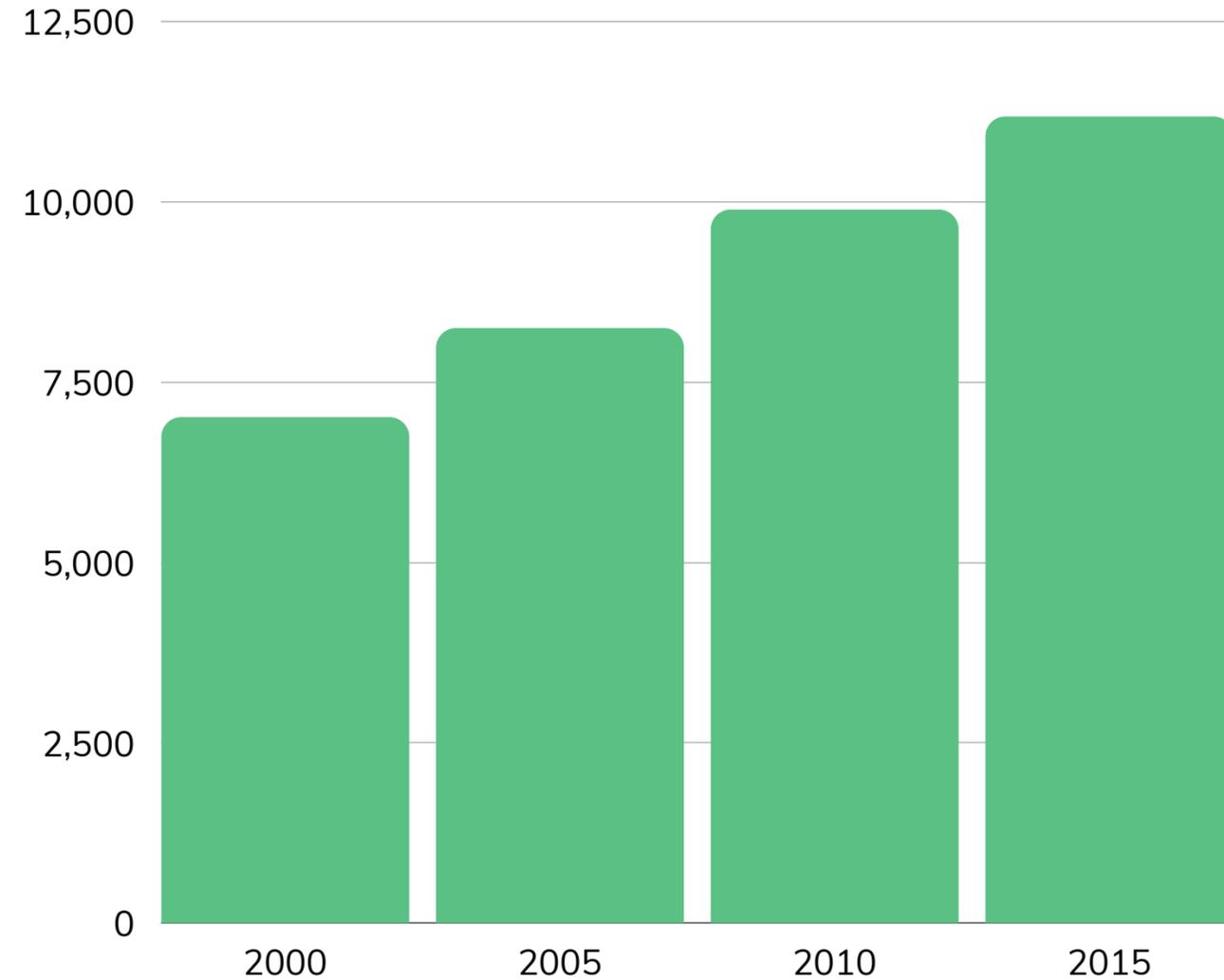


Fig.: The average daily annual traffic of motor vehicles on national and voivodeship roads. Source: own table based on Generalny Pomiar Ruchu.

- Decapitalization of the transport network
- Technical condition of roads and tracks
- Resignation from public transport
- An increase of mobility and transport of goods
- Lost position of the railways

ABOUT ZGIERZ - ROAD SYSTEM

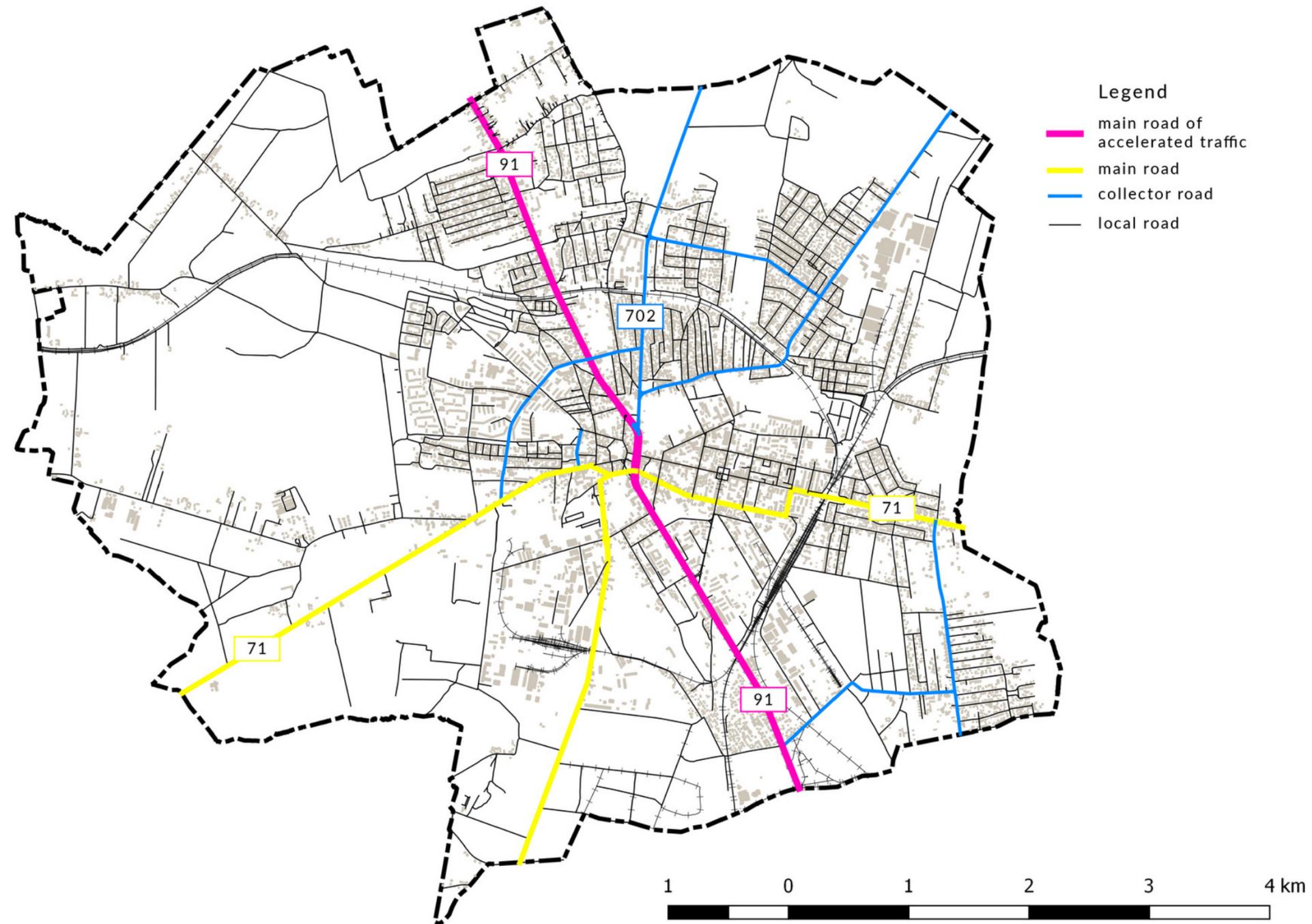


Fig.: Road classes in Zgierz. Source: (Olczak, 2019) based on (Studium, 2015) and (Geoportal Województwa Łódzkiego).

ABOUT ZGIERZ - ROAD SYSTEM

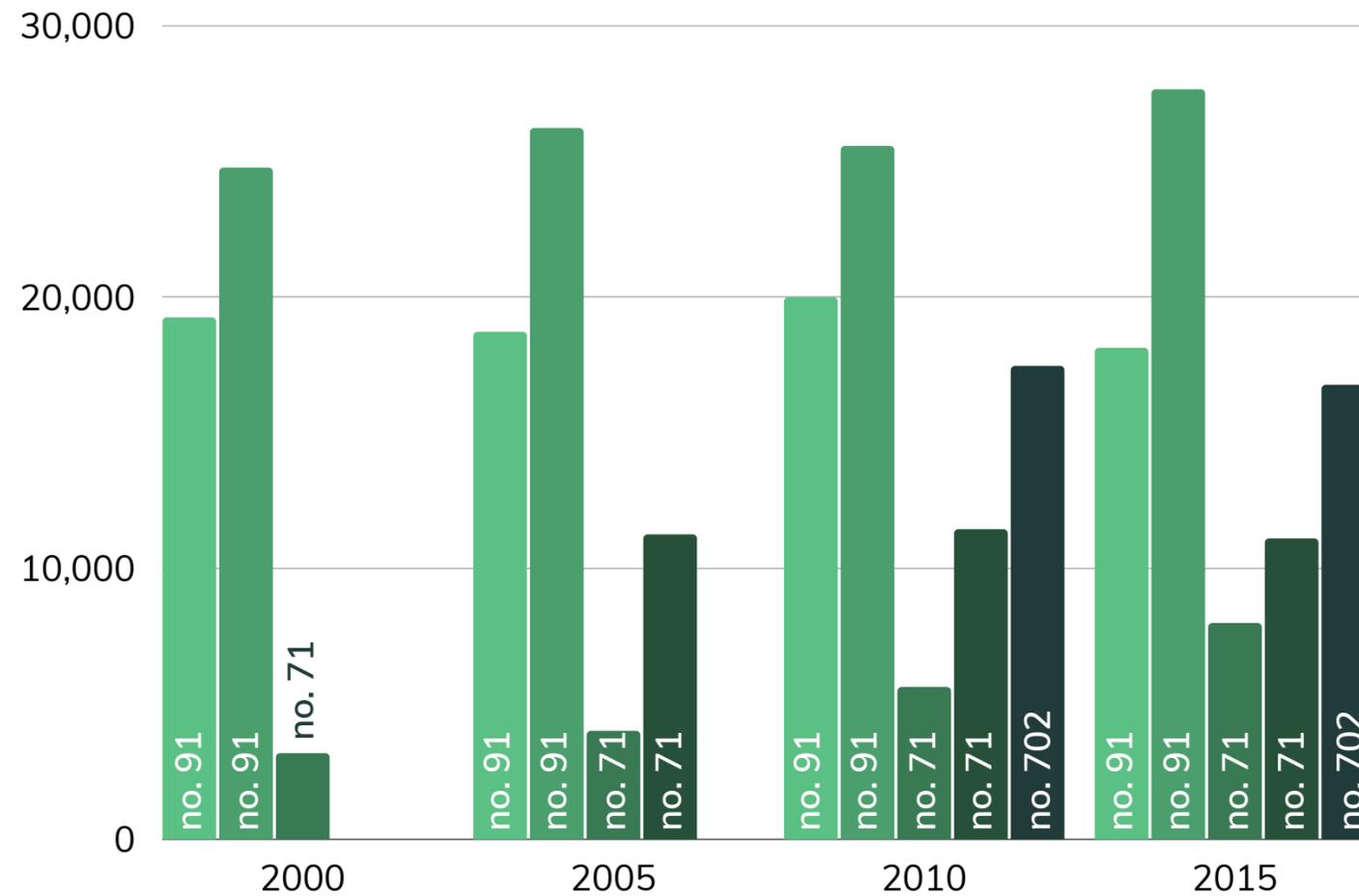


Fig.: Average daily annual traffic at measuring points on national and voivodeship roads running through Zgierz in 2000-2015. Source: own table based on Generalny Pomiar Ruchu.

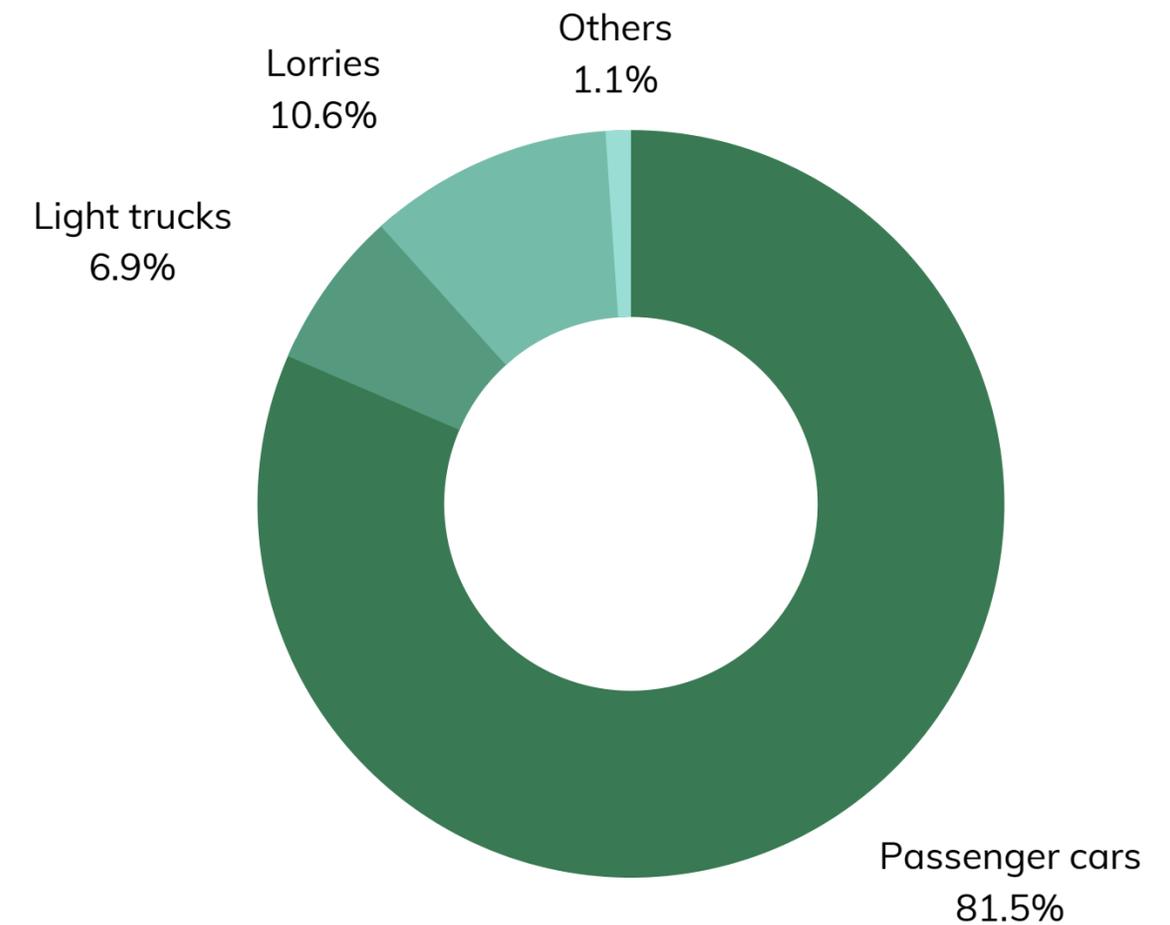


Fig.: Average daily annual traffic at measuring points on national and voivodeship roads running through Zgierz in 2015. Source: own table based on Generalny Pomiar Ruchu.

ABOUT ZGIERZ - URBAN STRUCTURE

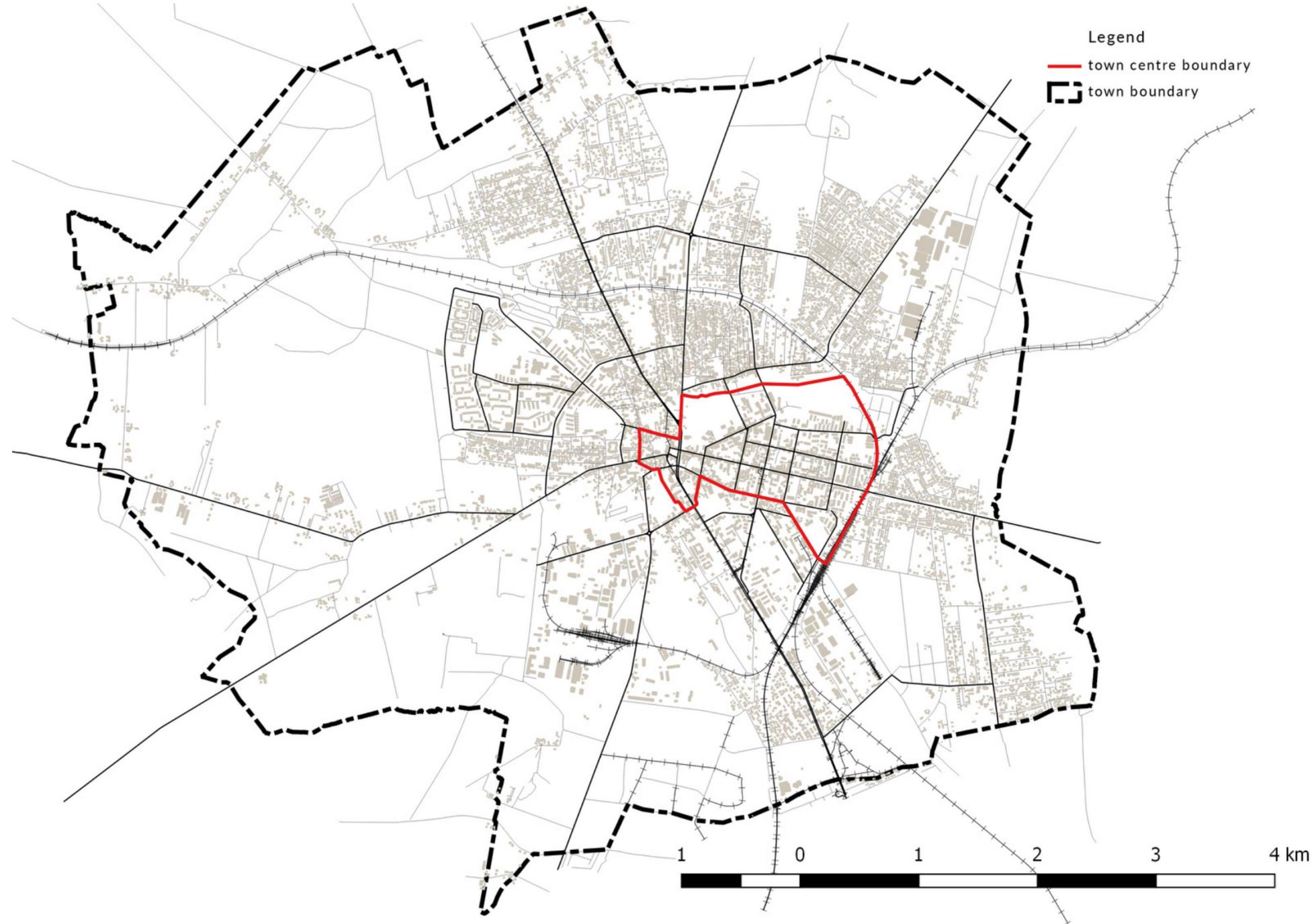


Fig.: Boundaries of Zgierz and the town center. Source: (Olczak, 2019).

ABOUT ZGIERZ - URBAN STRUCTURE



Fig.: Part of the Proboszczewice estate in Zgierz in 1978, 1996, 2015. Source: (Olczak, 2019) based on (Geoportal Województwa Łódzkiego).

ABOUT ZGIERZ - URBAN STRUCTURE

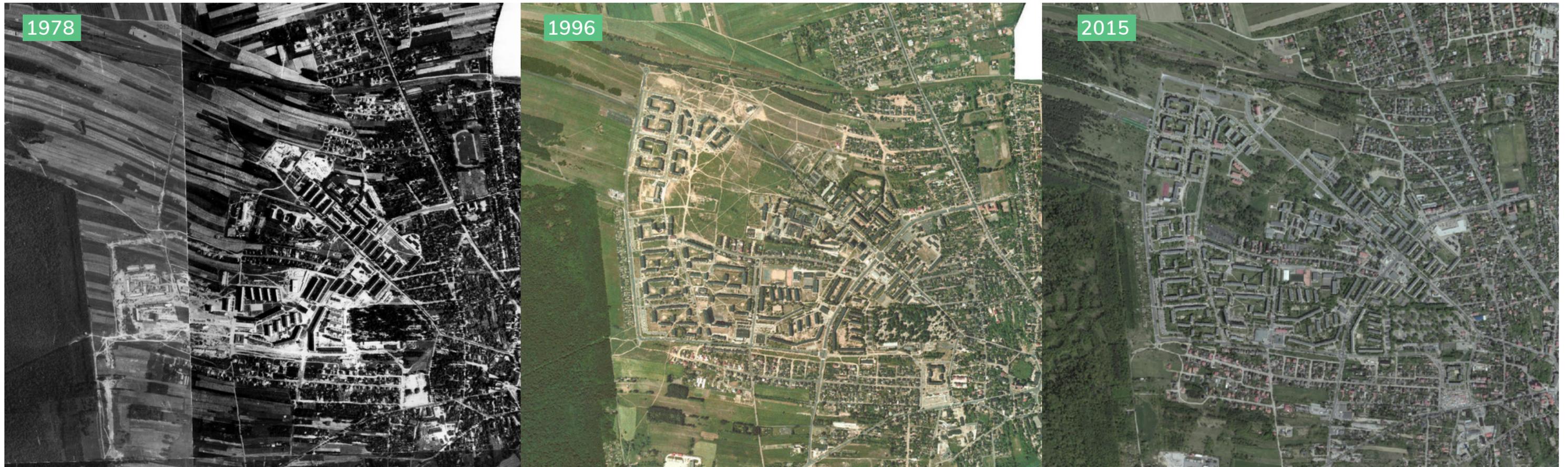


Fig.: Part of the 650-lecia estate in Zgierz in 1978, 1996, 2015. Source: (Olczak, 2019) based on (Geoportal Województwa Łódzkiego).

ABOUT ZGIERZ - URBAN STRUCTURE

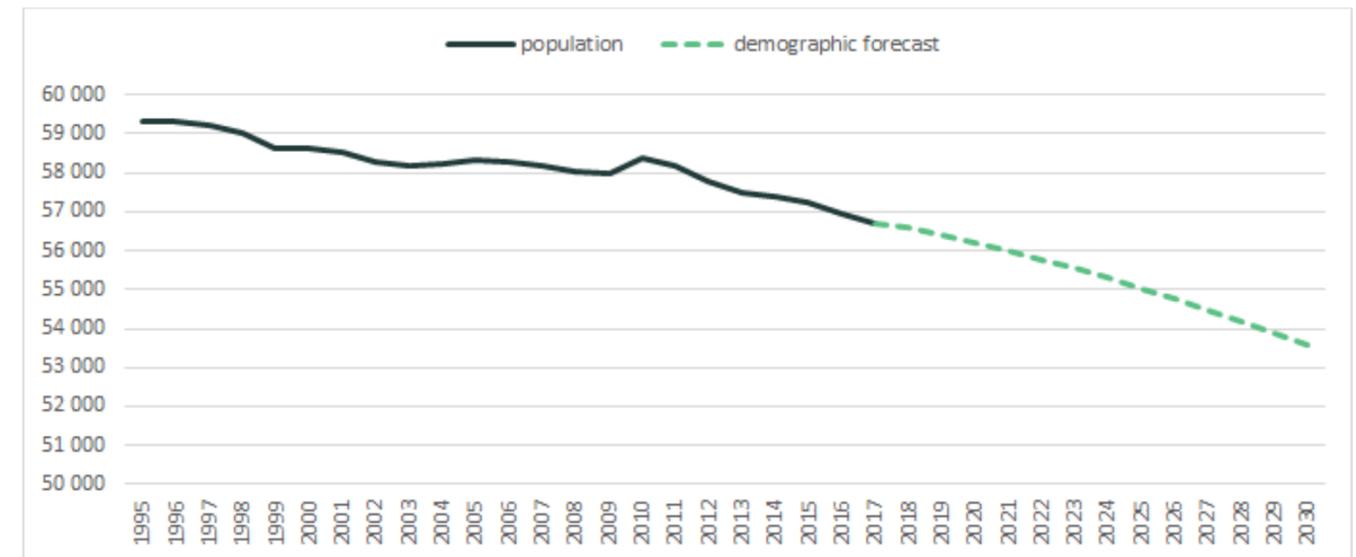


Fig.: Population in Zgierz in 1995-2017 and demographic forecast for 2017-2030. Source: (Olczak, 2019) based on (Bank Danych Lokalnych) and (Prognoza demograficzna gmin, 2017).

Fig.: Comparison of existing buildings and planned development of land. Source: (Olczak, 2019) based on (Studium, 2015).

TRANSPORT EXCLUSION



District Job Agency. Source: Olczak, 2019



Poviat Starosty. Source: Olczak, 2019

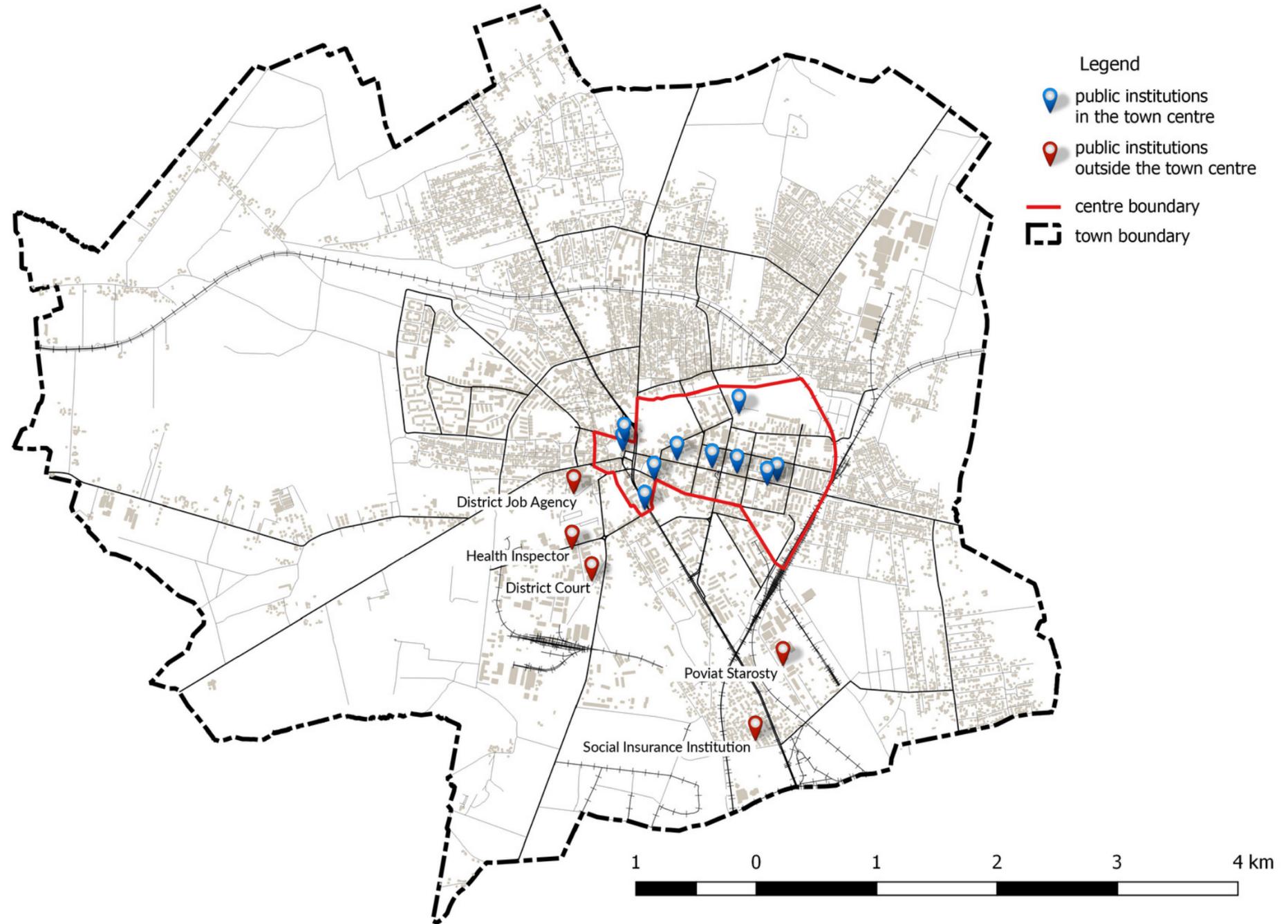


Fig.: Location of public institutions in Zgierz. Source: (Olczak, 2019).

ROAD TRAFFIC INJURIES

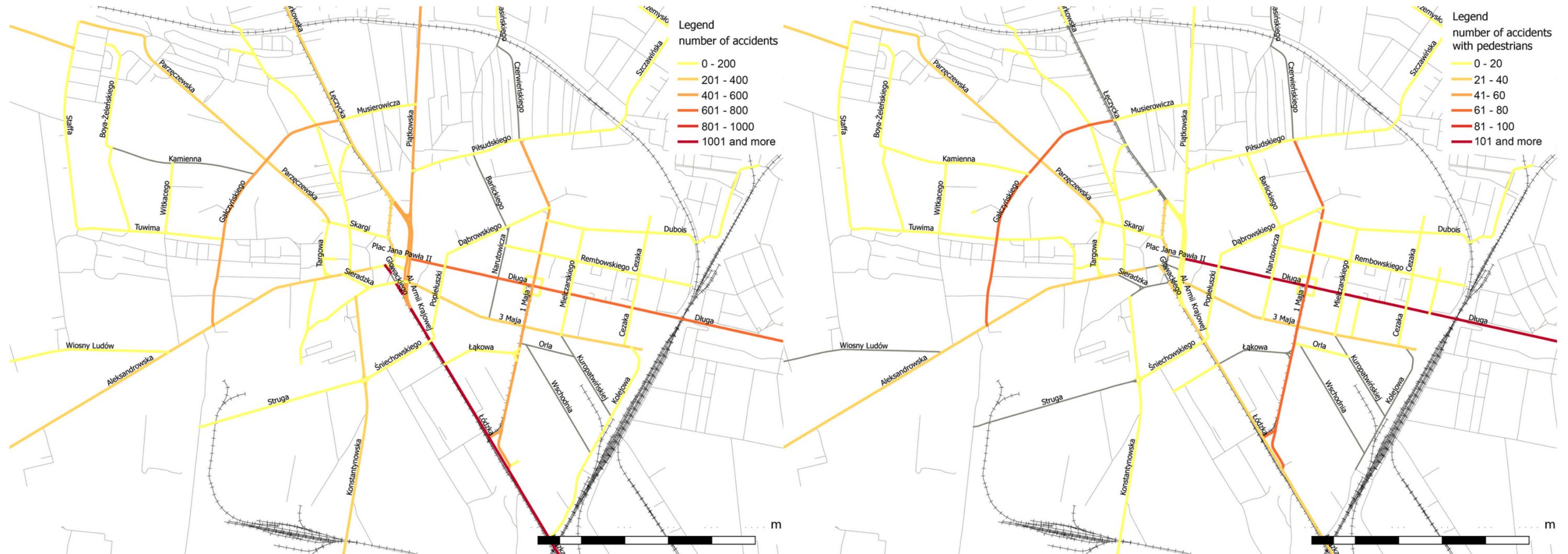


Fig.: The number of car accidents in total (left) and with pedestrians' involvement (right) in Zgierz in 2007-2017. Source: (Olczak, 2019) based on (SEWiK).

SPACE DISTRIBUTION



Fig.: Parking space in the centre of Zgierz. Source: (Olczak, 2019).



Parking on the sidewalk at Długa Street. Source: (Olczak, 2019)



Overspill parking on an unpaved surface at Kiliński Square. Source: (Olczak, 2019)

SPACE DISTRIBUTION

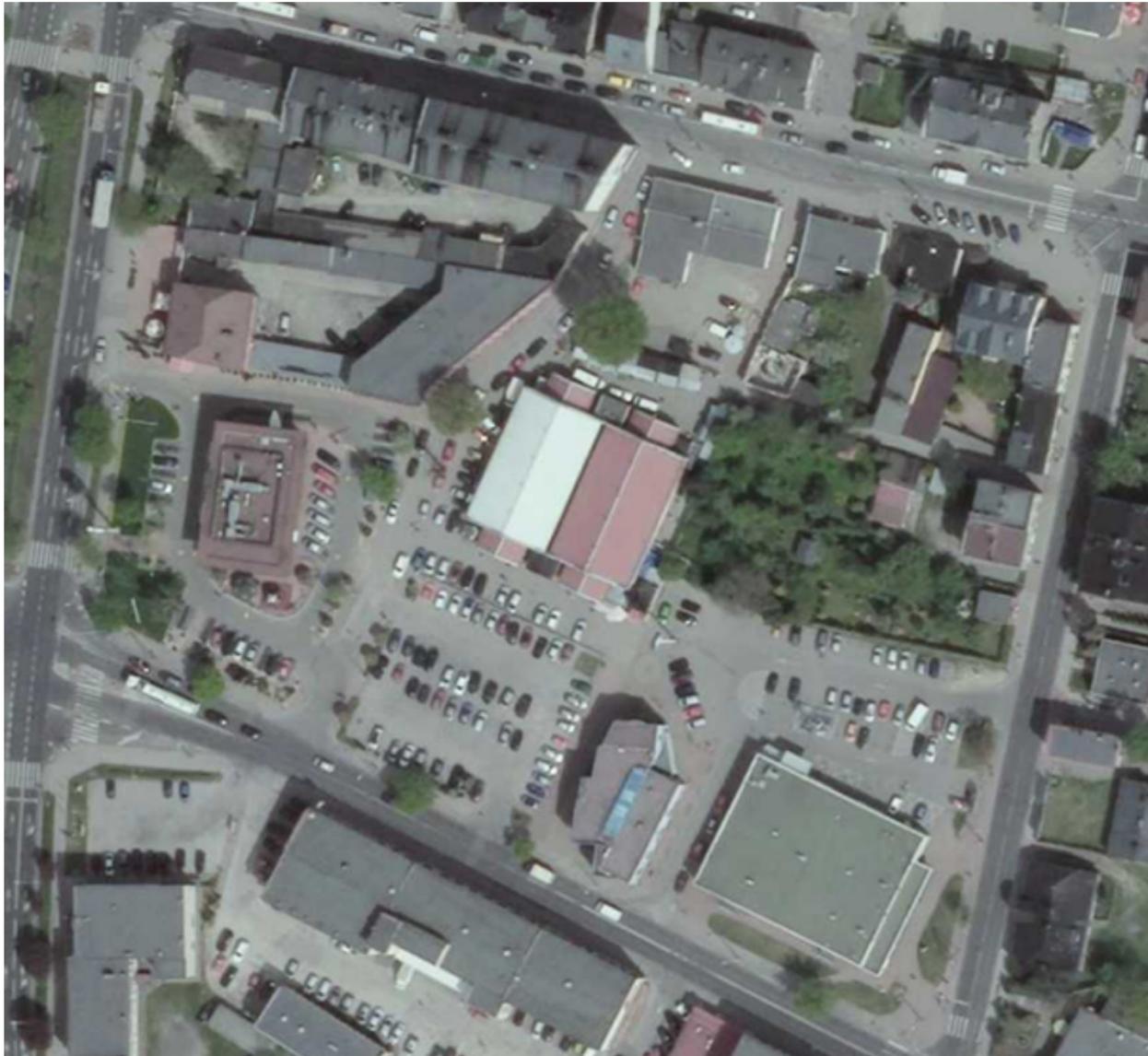


Fig.: Aerial photo of the quarter in the center of Zgierz. Source: (Olczak, 2019) based on (Geoportal).



Fig.: Public parking in the center of Zgierz. Source: (Olczak, 2019).

SPACE DISTRIBUTION

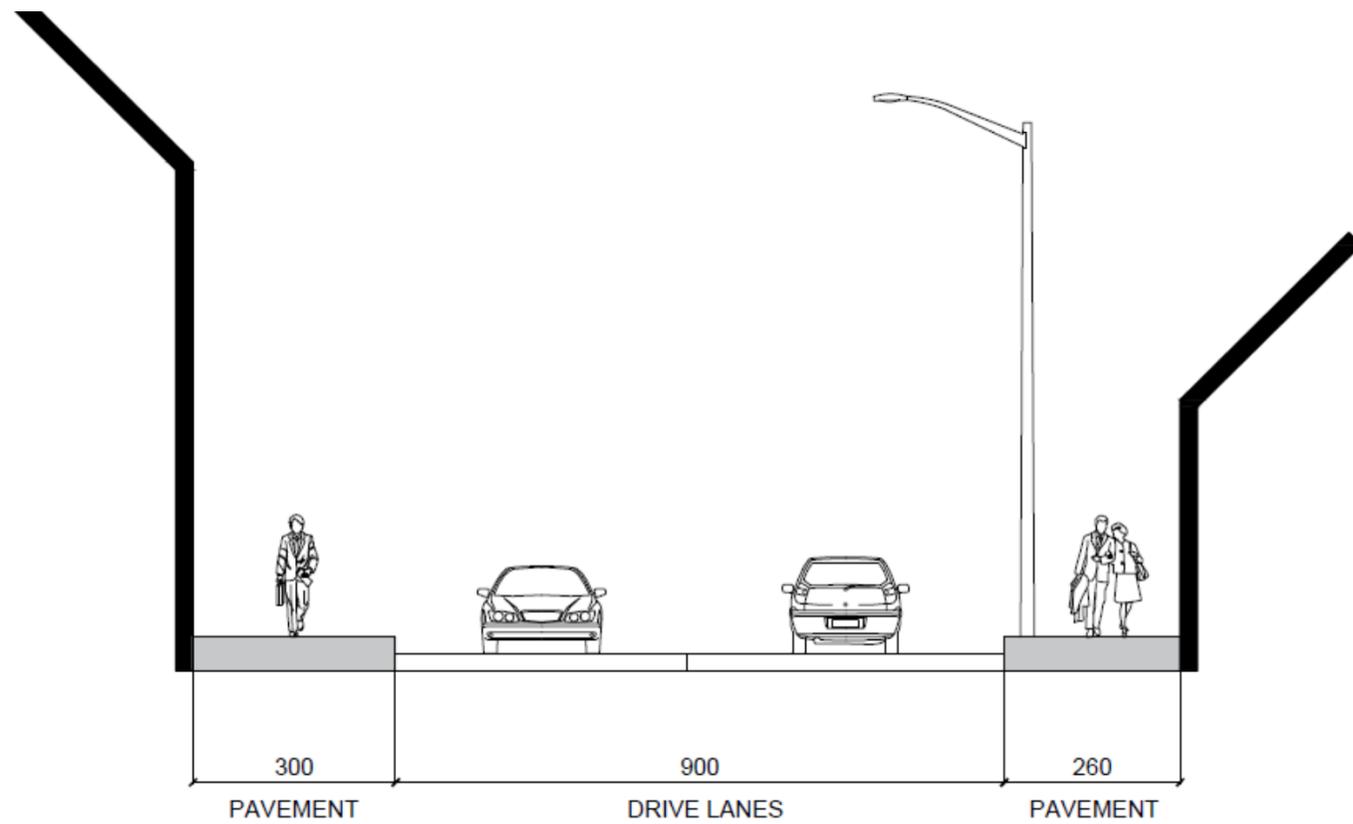


Fig.: Street section – Długa street in Zgierz. Source: (Olczak, 2019).



Długa street in Zgierz. Source: (Olczak, 2019).

SPACE DISTRIBUTION

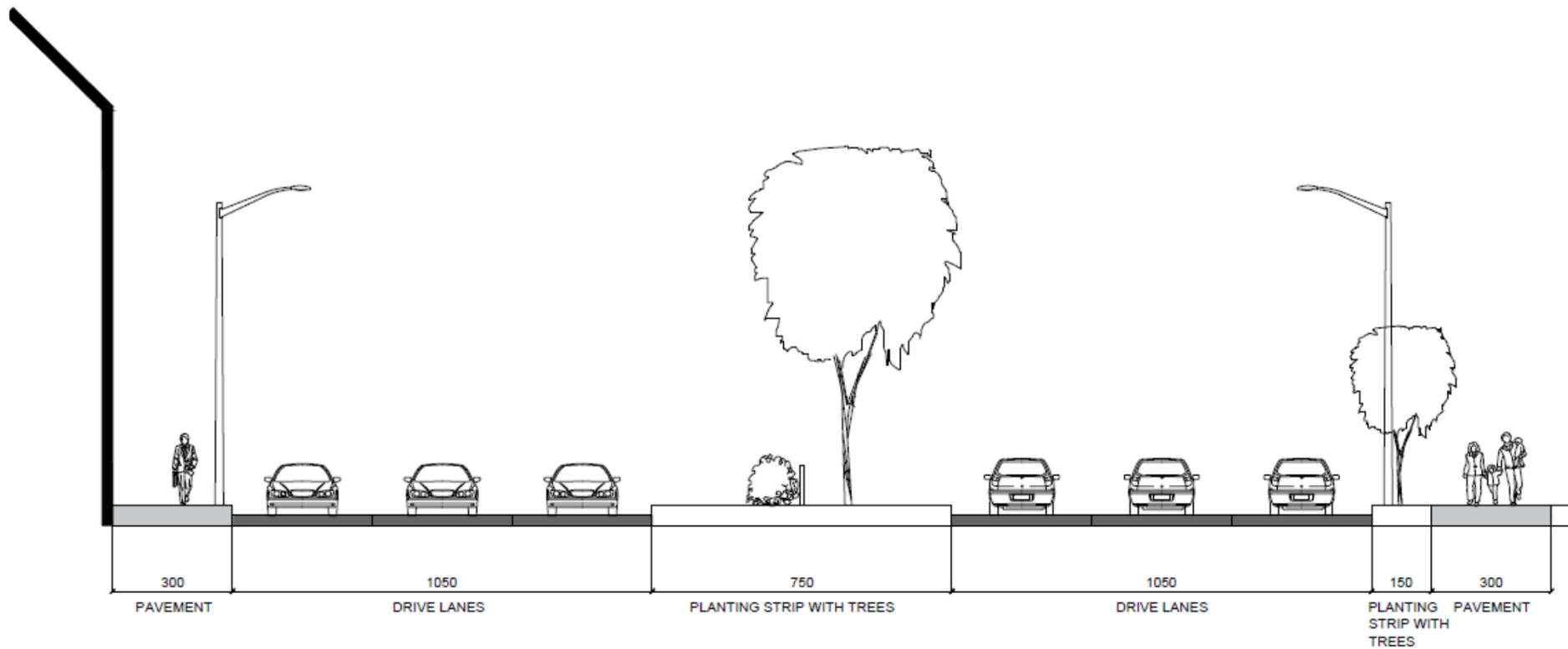


Fig.: Street section – the national road no. 91 in Zgierz. Source: (Olczak, 2019).



The national road no. 91 in Zgierz. Source: (Olczak, 2019)



The national road no. 91 in Zgierz. Source: (Olczak, 2019)

CONSEQUENCES OF POLLUTION

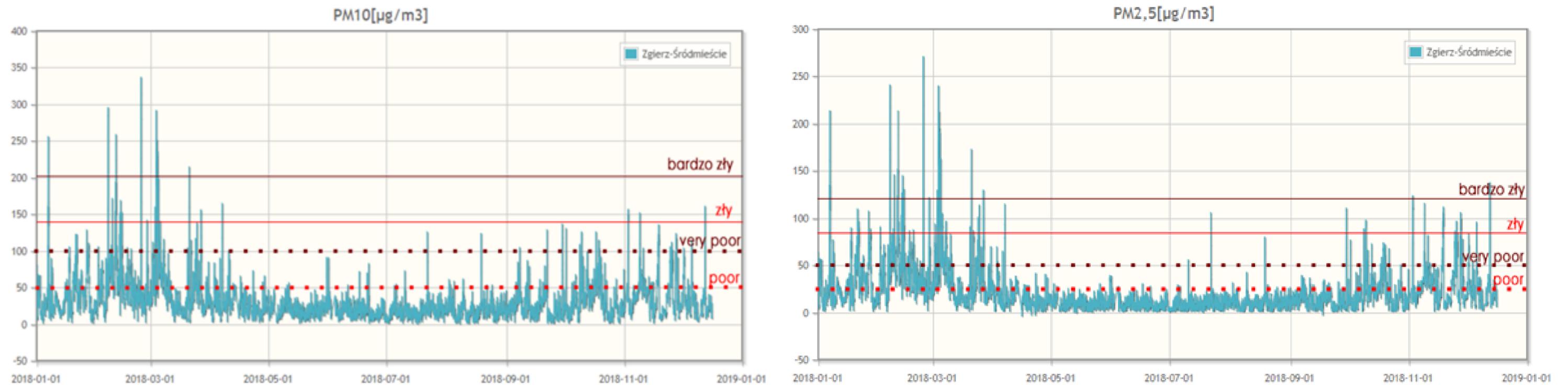


Fig.: PM10 (left) and PM2,5 (right) measurement results at the Zgierz station in 2018. Source: Wojewódzki Inspektorat Ochrony Środowiska.

INEQUALITIES AS THE CONSEQUENCES OF:

- 1. Urban sprawl**
- 2. Automobile dependency**
- 3. Demand for space**
- 4. Road safety**
- 5. Pollution**

RECOMMENDATIONS

URBANISATION

- Intensify development
- Limit urban sprawl
- Public transport dependence
- Attractive public spaces



TRANSPORT

- Width of pavements
- Places to stop and rest
- Reduce spatial barriers
- Bicycle infrastructure
- Integrate public transport
- Priority to public transport
- Accessibility



PARKING POLICY

- Maintain or reduce parking spaces
- Parking fees
- Eliminate parking on pavements



TRAFFIC CALMING

- Traffic calming areas
- Policy solutions - speed limit, equivalent intersections
- Engineering solutions - road narrowing, speed bumps, chicanes



CONTACT DETAILS

M.Eng. Bartłomiej Olczak

bartlomiej.olczak.1@dokt.p.lodz.pl