

Beyond Best Practices Policy Brief

Closing the passenger transport gap in Poland

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The demand for passenger mobility in Poland is increasing. At the moment most of this demand is covered by passenger vehicles, the demand of which is growing, and likely will not decline soon. To some extent, greater investment in EVs could limit the rapid rise in passenger transport emissions, but Poland's unfavourable energy-mix hinders deep emissions reductions. Diesel and gasoline provided the majority of the transport sector's energy in 2020, at 64% and 20%, respectively. The alternative energy supply to the transport sector in 2020 consisted of 9% Liquefied Petroleum Gas (LPG), 5% biofuels, 1.6% natural gas, and only 1.3% electricity². Poland would benefit from diversifying its renewable energy sources (RES) in the transport sector by promoting electrification.

Urban and particularly rural-urban and rural areas of Poland lack systemic and long-term financial support for public transit. Investments to make public transit more accessible and interconnected would incentivise public transit usage over individual passenger transport. Rail and public transport integration is one area that would benefit from the infrastructural investment.

Cycling has the potential to ramp-up as a mode of transport in Poland, with initiatives to boost interest across the country. Investing in infrastructure to support the safety,

¹ Ed. Climate Analytics, authors are solely responsible for content.

² "Poland 2022: Energy Policy Review," International Energy Agency, 2022, <https://iea.blob.core.windows.net/assets/b9ea5a7d-3e41-4318-a69e-f7d456ebb118/Poland2022.pdf>.

accessibility, and interconnectedness of routes for cyclists will help promote this low-carbon alternative. The underestimated segment of cycling development is its linkage with commuter railway services.

In longer term, Poland would benefit from urban restructuring to support the concept of “a city of short distances”, prioritising proximity to basic services for most residents. Such a concept would promote walking and cycling, prioritising public transit in longer trips and leading to decarbonisation in the passenger transport sector.

Transport overview

Poland is heavily reliant on passenger cars for individual transport. Access to import of used vehicles from Western Europe combined with rising incomes makes personal vehicles more affordable and attractive. From 2000 to 2021, the modal share of passenger cars rose from 55% to 76%.³ During the same period, the use of buses fell from 17% to 6%.

Transport governance policies interweave climate goals with transport goals and largely focus on the co-benefits and overlap between energy and transport policy and urban restructuring. The policies set targets for renewable energy production and electrification of transport.

Lack of systemic integration of rail and bus modes of transport contributes to the attractiveness of personal vehicles as a primary means of transport. Suburbanisation and urban sprawl have presented barriers to an increasing uptake of cleaner alternatives to private (mostly combustion) vehicles. Developing railway infrastructure across Poland and creating connections between access points and infrastructure can make rail and bus transport more viable for a wider segment of the population.

Although data on the share of active means of transport (walking and cycling) are available for only few cities, expansions of cycling routes and a rise in per capita bike ownership have been used to measure the prevalence of cycling. Numerous initiatives across Poland to promote attitudes around cycling, safety, and accessibility of rentals have sought to increase cycling as a form of transport, though greater investment in cycling infrastructure is needed.

Transport governance

Poland's transport policy primarily targets transportation, urbanisation, and energy and provides guiding frameworks and short-medium term packages. Six main policies and plans are outlined below.

³ Climate Analytics, “Transport Emission Disaggregation Tool (TEDiT),” TEDiT, 2023, <https://tools.climateanalytics.org/tedit/>.

The National Transport Policy (2006-2025):⁴ Offers a framework to guide values and future regulatory ambitions, including promoting spatial and functional integration of transport systems, undertaking activities that prioritise energy efficiency, and increasing the competitiveness of modes of transport other than rail and air.

The National Urban Policy (2023):⁵ Emphasizes sustainable mobility through low- and zero-carbon transport (public transit, cycling, walking) under the guiding principle of improving residents' quality of life. It includes ambitions to design and restructure urban transport subsystems to satisfy individual travel needs, considering aspects such as tariffs, travel time and convenience, reliability, and connections between different modes of transport.

The Strategy for Sustainable Development in Transport until 2030 (2019):⁶ Offers the most important current directions of transport development in Poland, with guiding principles of accessibility, safety, and sustainability of transport. It emphasises implementing policies to better integrate the transport network, improve the management of the system, and promote collective transport.

The National Strategy for Regional Development (2019):⁷ Makes projections for 2030 and aims to improve existing transport infrastructure with an emphasis on safety and building well-connected interchanges in cities outside of their centres. It recognises the impact of the lack of integration of public transport in both urban and rural areas on reliance on passenger cars.

The National Energy and Climate Plan (NECP) (2019):⁸ Sets a target of achieving 14% share of renewable energy in transport by 2030. The NECP aims to support investments in renewable and alternative fuels, such as liquid biofuels, LNG, and hydrogen, and greater electrification of transport, targeting one million EVs and 3000 electric buses on the road by 2030.

⁴ Ministry of Transport Strategy, "Polityka Transportowa Państwa 2006-2025," 2005, http://www.europedirect-katowice.pl/ed_stara_strona/dokumenty/2/polityka-transportowa-panstwa.pdf.

⁵ Council of Ministers of the Republic of Poland, "National Urban Policy 2030. Act of the Council of Ministers Nr 136" (Republic of Poland, 2022).

⁶ Council of Ministers of the Republic of Poland and Ministry of Climate, "Politykę Ekologiczną Państwa 2030 – Strategię Rozwoju w Obszarze Środowiska i Gospodarki Wodnej" (Ministry of Climate, 2019).

⁷ Republic of Poland, "Krajowa Strategia Rozwoju Regionalnego 2030" (Ministry of Development Funds and Regional Policy, 2019).

⁸ Poland Ministry of Climate and Environment, "National Energy and Climate Plan for the years 2021-2030," Ministry of Climate and Environment | gov.pl, 2022, <https://www.gov.pl/web/klimat/national-energy-and-climate-plan-for-the-years-2021-2030>.

Poland's Energy Policy until 2040 (PEP2040):⁹ Identifies low-carbon objectives along the entire supply chain, from obtaining raw materials through energy production and distribution. The policy mentions the development of low-emission transport, in particular the pursuit of zero-emission public transport by 2030 in cities with more than 100,000 inhabitants.

The Modal Split

Total passenger activity in Poland rose by 30% between 2000 and 2021, with emissions in the passenger sector increasing by 85%.¹⁰ These figures indicate a rise in emissions intensity per passenger and can be explained by the rise in more emissions-intensive modes of transport, primarily passenger cars, and secondarily international aviation, with a subsequent decline in the use of buses. A rise in emissions from personal cars can be attributed to more widespread usage and a decline in occupancy rates. The decline in the modal split of buses can be attributed to a decline in the load factor and a decrease in emissions intensity.

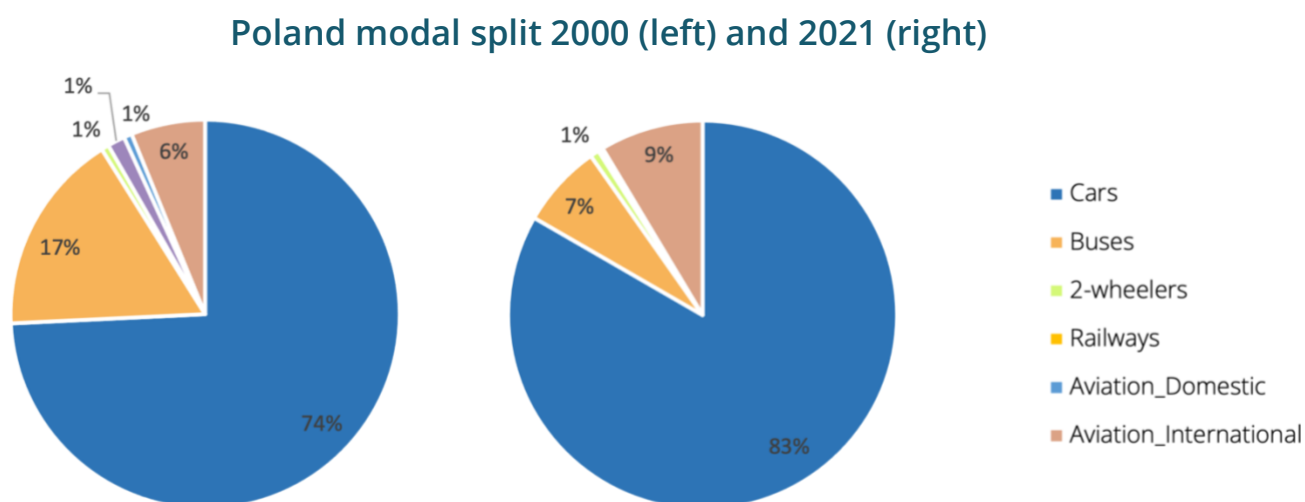


Figure 1 Poland modal split

The Main Drivers of Passenger Transport Emissions

Income growth and the availability of used cars in Poland supported by lower public transport accessibility in less urbanised areas are the main factors driving passenger transport emissions up. Rising incomes make private cars more affordable and incentivise suburbanisation, which in turn, without adequately integrated public transport systems, makes private cars more necessary for daily mobility.

⁹ Ministry of Climate and Environment, "Energy Policy of Poland until 2040 (EPP2040)," Ministry of Climate and Environment | gov.pl, 2022, <https://www.gov.pl/web/climate/energy-policy-of-poland-until-2040-epp2040>.

¹⁰ Climate Analytics, "Transport Emission Disaggregation Tool (TEDiT)."

Access to the Western European used car market provides Poland with an affordable stream of used cars, which are often less energy efficient and produce higher tailpipe emissions. As a result of these factors, the number of cars per thousand residents in Poland more than doubled from 323 in 2000 to 659 in 2020.¹¹

While the rising number of EVs on the road is to be welcomed, transforming the national energy mix is simultaneously critical, as the carbon footprint for EV production and use is higher in Poland than in many other European countries. Initiatives that seek to increase of renewable energy sources in Poland's energy mix will help decrease the lifecycle emissions of EVs.

Policy recommendations

City of Short Distances

Applying the concept of a city of short distances to cities in Poland is a longer-term urban re-design strategy that seeks to alleviate issues of spatial chaos and excessive car use. The idea is to ensure convenient access to different functions and services necessary to everyday life for all social groups. Zielona Góra offers a practical example, with a spatial structure favourable towards pedestrian activity. As part of the 2017 Sustainable Urban Mobility Plan,¹² Zielona Góra seeks to improve pedestrian crossings' lighting and safety, support residents with reduced mobility, and revitalise city green areas. Implementing this concept requires years of planning and collaboration between several stakeholders, including local government, industry, developers, and residents.

Development of cycling infrastructure

The continued development of cycling infrastructure in Poland will play a critical role in transport decarbonisation. Policies and practices target three main areas: improving safety and accessibility, campaigns to change public attitude, and promoting different forms of micro-mobility, including bike share schemes.

Infrastructure development to improve safety and accessibility includes expanding designated bike lanes, limiting car speed limits in areas with heavy cycling traffic, erecting physical barriers between bike and car lanes, and synchronising traffic lights. Many Polish cities are already implementing similar measures, with bicycle ownership increasing by 7% between 2016 and 2022 and the length of bike paths growing across Poland.¹³

Soft measures are a vital tool to shift mobility preferences and attitudes towards cycling as recreation to cycling as transport. "Cycling May" is a campaign launched in 2014 in

¹¹ Poland Statistical Office, "Statistics Poland," Statistics Poland, 2022, <https://stat.gov.pl/en/>.

¹² PTC Public Transport Consulting, "Plan Zrównoważonej Mobilności Miejskiej Dla Miasta Zielona Góra" (City Council of Zielona Góra, 2017), https://bip.zielonagora.pl/system/obj/51133_0700-LIII-2017.pdf.

¹³ Poland Statistical Office, "Statistics Poland."

Gdansk,¹⁴ that has since spread across the country, partnering with schools to promote healthy lifestyles and sustainable mobility among youth through traffic safety education and competition.

Bike share programs exist in many Polish cities, with over one million users and 14,000 bikes in circulation.¹⁵ However in recent years the expansion of these programs slowed down due to the difficult financial situation of many municipal self-governments. Including cargo bikes and bikes that can accommodate children in rental systems supports a greater diversity of users and needs. Moreover, a pilot program co-financing the electric bikes purchase by citizens in Gdynia exceeded expected demand.¹⁶

Developing Railway Infrastructure

Poland's railway infrastructure can benefit in several ways from development to improve access and sustainability, including expanding the length of lines, greater electrification, and increasing network capacity to meet projected growth in demand. With funding from the EU, Poland has accelerated its railway development, progressing on electrification and updates to ageing infrastructure. Local and regional railways have been neglected in the past decades, with parts of lines shutting down. Revitalisation and support for bike and car parking are necessary to deter personal car use. The development of high-speed railways in Poland is still in the conceptual stage, but has the potential to better integrate rail and air transport.

Electrification of Bus Fleets

The majority of cities in Poland have begun the process to electrify their bus fleets. It is supported both by EU and national funding. In 2020, the "Green Public Transport Program" was announced to co-finance electrification initiatives of buses and trolleybuses and budgeted more than PLN 1 billion to support cities in public transport electrification.¹⁷ Electrification of public transport can be seen as a first step of the road transport sector electrification, which is one of the most efficient ways to decrease emissions. Electrification should be paired with efforts to encourage public transport usage to balance the cost.

Integration of Rail and Public Transport

Rail and public transport integration is a key component of combatting spatial chaos and suburbanisation. Ensuring funding for integration efforts at the national level has been a challenge, compounded by usage declines during the initial stages of the pandemic. Regional self-governments accompanied by large and mid-sized

¹⁴ City of Gdansk, "Rowerowy Maj [Cycling May]," Cycling May, 2022, <https://rowerowymaj.eu/>.

¹⁵ wRower, "Rower Miejski - Wypożyczalnia Rowerów [City Bike – Bike Rental]," wRower Rowery od A do Z, 2022, <http://www.wrower.pl/miasto/rower-miejski-wypożyczalnia-rowerow,2183.html>.

¹⁶ City Council of Gdynia, "Dotacja Do Zakupu Roweru Cargo [Subsidy for the Purchase of a Cargo Bike]," Mobilna Gdynia, 2020, <https://www.mobilnagdunia.pl/rower/611-dotacja-do-zakupu-roweru-cargo>.

¹⁷ IEA, "Green Public Transport Program – Policies," IEA, 2022, <https://www.iea.org/policies/13079-green-public-transport-program>.

municipalities are the leading stakeholders, with the potential to influence local and regional railway upgrade & construction. Thus, a legal framework to support integration in metropolitan areas would be helpful. The city of Łódź provides an example through a partnership with Warsaw,¹⁸ allowing those who purchase a railway ticket from Łódź to Warsaw to access public transport within Warsaw using that ticket. Expanding forms of integrating different modes of transport within one ticket will incentivise public transit use over car transport, providing cost-saving incentives.

Conclusions

A number of initiatives and policies in Poland show promise in the decarbonisation of the transport sector. The electrification of bus fleets and financial incentives to support cities in local transport electrification contributes to lowering emissions. The expansion of opportunities to rent bikes, the development of safety and accessibility infrastructure for cycling, and campaigns to increase cycling for mobility encourage the prevalence of cycling and the reduction in private car usage. Personal vehicles vastly dominate the modal split in Poland, however, a growth in EVs is projected to decrease the emissions intensity of the passenger transport sector, though coordination with increasing renewable energy across the Polish economy is essential to limit lifecycle emissions. Initiatives to better integrate public transport and railways as a cost-effective service can further decrease reliance on cars.

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¹⁸ City of Warsaw, “Bilet Łódź – Warszawa w ramach oferty „ŁKA łączy z Warszawą,” City of Warsaw, 2022, <https://www.wtp.waw.pl/integracje/bilet-lodz-warszawa/>.

