3S RECIPE - Smart Shrinkage Solutions

Fostering Resilient Cities in Inner Peripheries of Europe

ŁÓDŹ (PL) POLICY BRIEF #2 • COMPACT CONNECTED CITY

EXECUTIVE SUMMARY

This policy brief refers to a so far partially successful solution to the transport problems in a city inhabited by almost 700 thousand people. Located in the heart of the country, Łódź is a former centre of the textile industry, still coping nowadays with the results of economic restructuring and population loss. The issues that need to be addressed include insufficient connectivity and high levels of congestion and car dependency in the city. To cope with these problems, **The Plan for the Sustainable Development of Public Transport** was approved in 2015. This document is a reasonable step towards long-term, integrative, strategic planning, but it still needs some improvement. More in-depth analysis and effective cooperation with stakeholders are necessary. The brief suggests policy recommendations aimed at developing a more resilient and effective approach to public transport planning.

INTRODUCTION

As many cities face increasingly burdensome congestion on the one hand (consuming money and time, source of noise, air pollution and road accidents etc.), and insufficient accessibility of certain areas on the other, public transport becomes one of the key drivers for making them more sustainable and attractive as places to live. However, if public transport is expected to perform its role effectively, a well thought out, wide ranging, and flexible transport policy is first required based on proper analysis. Another crucial element is monitoring and validation, which cannot only remain as formal records in documents but must include the acknowledged and necessary conditions for fostering progress.

A PLAN FOR THE SUSTAINABLE DEVELOPMENT OF PUBLIC TRANSPORT

According to a legislative change introduced in 2010, Polish municipalities with at least 50 thousand inhabitants, metropolitan areas and administrative regions of higher order are obliged to prepare a plan for the sustainable development of public transport. Such a document was adopted in Łódź in 2018 and will run through to the year 2025. It was supposed to face the challenges of this densely built-up centre of an urban conurbation, such as the integration of municipal public transport with railway transport, and securing a high share of public transport in the modal split. Its main objective was to provide public transport services in the city and the neighbouring municipalities in a way that improves the accessibility and territorial cohesion of that area. This document was supposed to reflect the shift towards long-term integrative strategic planning that has occurred in Poland, taking into account actual needs and depending on continuous monitoring and validation. Providing that it has been prepared and implemented accurately,

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it should result in decreasing car dependency and lower congestion, improvements in air quality, shorter travelling time and lower travel cost, improved economic efficiency of public transport, and a liveable and attractive city for present and potential future inhabitants.

The Plan for the Sustainable Development of Public Transport in Łódź was approved for a 10-year timescale. In line with the legislator's demands, it consists of the following elements:

- Objectives and scope
- Socio-demographic description of the city
- Description of the municipal transport system
- Evaluation and identification of transport needs
- Financing - sources, forms and rules
- Estimate of passengers' preferences
- Organisation of public transport (bodies, rules, integration of services)
- Desired standard of services
- Passenger information - proposed management system
- Directions of development for public transport
- Monitoring the effects of implementation

The Plan for the Sustainable Development of Public Transport was preceded by **The New Model for Public Transport in Łódź (2015),** which assumed the strengthening of the priority of public transport over private, gradation of transfer nodes, calming down of traffic in the city centre, reduction of competition between buses and trams, as well as the provision of new bus routes and special routes with stops on demand. Because of the changes in bus/tram routes that have already been implemented, the western and north-western part of the city was strongly affected. In some parts of Łódź, transport exclusion was considerably reduced. In others, the situation got worse, but the overall effect seems to be positive. The adjustment of the fleet to the requirements of people with 'kiss-and-fly' or 'Kiss & Ride' (K+R), Park & Ride (P+R), and Bike & Ride (B+R) facilities are to be improved. Still, much depends on people's willingness to change their lifestyles and travel behaviour. All these factors were acknowledged in **The Plan for the Sustainable Development of Public Transport***,* in which the necessity for overall integration, related to both infrastructural and organisational aspects, was strongly emphasised.

THE PLAN FOR THE SUSTAINABLE DEVELOPMENT OF PUBLIC TRANSPORT: KEY OBJECTIVES

Area	Goals
Infrastructure & fleet	Further development of the tram system as a basic subsystem for connecting the city centre and residential districts; modernisation of the metropolitan railway system; new multi-platform interchange nodes, P+R by rail nodes; P+R, B+R and "K+R" by transit nodes for priority routes outside the city centre; traffic engineering investments for public transport (e.g. bus lanes, traffic separators, elevated trackways); trackways with greenery if possible; visually unified fleet fully equipped with: GPS, air-conditioning, ticket vending machines, integrated punch system for traditional and e-tickets.
Operation	Optimisation of maintenance and frequency; improved routing; constant regular servicing periods; aggregation and specialisation of transport routes; high-quality transport corridors with preference for rail transport; increasing priority for public transport in traffic management; restrictions on individual traffic in the city centre; integrated e-ticket for local and regional transport services; coordination of timetables in regional and local transport services; map of regional interchange nodes for metropolitan area; integrated dynamic information system (transport stops, fleet); online application with search engine for public transport services.

As shrinking cities require solutions that are immune from unexpected interference and shocks, resilience of **The Plan** was assessed on the basis of the Urban Futures method (see Lombardi *et al.*, 2012). Three main general benefits were identified that will influence other social, economic and environmental spheres. These were: (1) **reduced car dependency & traffic congestion**, which will make the city (2) **more liveable and attractive** for present and future inhabitants, as well as contributing to (3) **reducing traffic pollution**, especially with regard to air quality. As the above-mentioned benefits are interrelated, the necessary conditions for each outcome also overlap, which is indicated in the table below.

Sustainable transport outcome	What are the necessary conditions to make it happen?
1. **Reduced traffic congestion** 2. **Increased liveability** 3. **Improved air quality**	• Individual willingness to change travel behaviour [1, 2, 3] • High parking rates in the city centre [1, 3] • Efficient cooperation between regional and local authorities [1, 2, 3] • Sufficient financial resources for investment and maintenance [1,2,3] • Public transport scheduled according to actual travel needs [1, 2, 3] • Reliable public transport (always on time, no breakdowns) [1, 2, 3] • Competitive prices for public services [1, 2, 3] • Minimised travel time and complexity of a journey [1, 2, 3] • Safe travelling by public means of transport [1, 2] • Eco-friendly power supply [2, 3]

WHAT HAVE WE LEARNED FROM ŁÓDŹ? RECOMMENDATIONS

➢ **Ensure clear objectives, and a balanced structure and solutions making precise reference to the problems identified**

A successful plan for the development of public transport, in a similar manner to other planning and strategic documents, must be developed on the basis of a clear general concept. The structure of the document is just as important. It seems obvious to begin with introducing the city and its problems; however, an enormous focus cannot be placed on this part whilst at the same time leaving crucial issues to one side. Even if there is an obligatory list of elements to be mentioned, it is up to the authors to decide which piece of content is pivotal and ought to be most thoroughly developed. And last but not least, the conclusions shouldn't be formed in a manner such that they might as well refer to any city (specific and precise solutions are required) as each city experiences a different and changing array of environmental, social, political and economic conditions.

➢ **Think spatially, use recent and thematically relevant data**

Successful policy implementation relies heavily on the scope and quality of the information input. Among the problems identified in some public transport plans is the use of invalid statistics and too generalised data – referring to the whole cities while not revealing the situation in smaller-scale territorial units, illegible or otherwise incorrect cartographic imagery, as well as such trivial matters as editing shortcomings. While such documents happen to be full of supplementary, but available, information (e.g. passenger volumes in the region), the crucial, but difficult to obtain, data (e.g. actual patterns of local mobility) is sometimes missing.

➢ **A detailed regular research on travel behaviour is necessary for efficient transport planning**

The main challenge, which has already been noted above, often remains the lack of reliable basic information on actual modal split and mobility patterns. Deprived of that data, a resilient plan for the sustainable development of transport cannot be established. In such circumstances, traffic generators are estimated rather than known for sure. Finally, there is a need for proper monitoring and validation, in particular - for an interdisciplinary analysis of the effects of the solutions implemented and the overall effectiveness of the transport policy.

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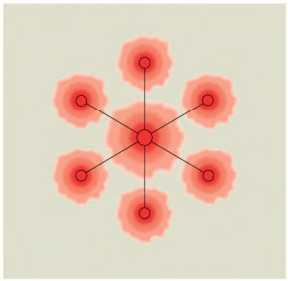
WOULD THE PLAN BE EFFECTIVE IN DIFFERENT FUTURE SCENARIOS?

Resilience analysis of the Plan involved confronting the conditions identified as necessary for the prospective benefits against different scenarios for urban futures with a ca. 40-year time horizon. Four **plausible but distinct** future scenarios were included into our analysis (see Lombardi *et. al.*, 2012: Table 2). A summary of these four global **urban future scenarios** is provided below:

New Sustainability Paradigm (NSP)

Key driver: Equity and sustainability

Settlement pattern



Description

An ethos of 'one planet living' facilitates a shared vision for more sustainable living and a much improved quality of life. New socio-economic arrangements result in changes to the character of urban industrial civilisation. Local is valued but global links also play a role. A sustainable and more equitable future is emerging from new values, a revised model of development and the active engagement of civil society.

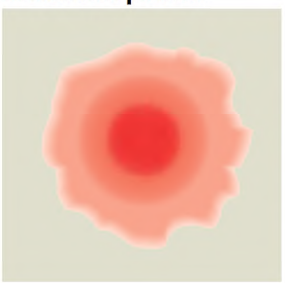
Philosophy

The worldview of the *New Sustainability Paradigm* has few historical precedents, although John Stuart Mill, the nineteenth century political economist, was prescient in theorising a post-industrial and post-scarcity social arrangement based on human development rather than material acquisition (Mill, 1848).

Policy Reform (PR)

Key driver: Economic growth with greater equity

Settlement pattern



Description

Policy Reform depends on comprehensive and coordinated government action for poverty reduction and environmental sustainability, negating trends toward high inequity. The values of consumerism and individualism persist, creating a tension with policies that prioritise sustainability.

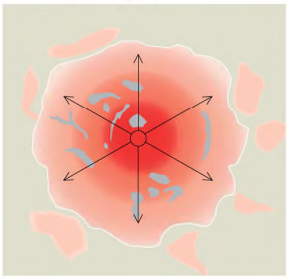
Philosophy

In *Policy Reform*, the belief is that markets require strong policy guidance to address inherent tendencies toward economic crisis, social conflict and environmental degradation. John Maynard Keynes, influenced by the Great Depression, is an important predecessor of those who hold that it is necessary to manage capitalism in order to temper its crises (Keynes, 1936).

Market Forces (MF)

Key driver: Competitive, open global markets

Settlement pattern



Description

Market Forces relies on the self-correcting logic of competitive markets. Current demographic, economic, environmental, and technological trends unfold without major surprise. Competitive, open and integrated markets drive world development. Social and environmental concerns are secondary.

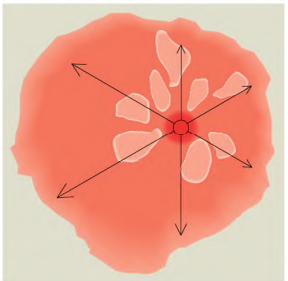
Philosophy

The *Market Forces* bias is one of market optimism, the faith that the hidden hand of well-functioning markets is the key to resolving social, economic and environmental problems. An important philosophic antecedent is Adam Smith (1776), while contemporary representatives include many neo-classical economists and free market enthusiasts.

Fortress World (FW)

Key driver: Protection and control of resources

Settlement pattern



Description

Powerful individuals, groups and organisations develop an authoritarian response to the threats of resource scarcity and social breakdown by forming alliances to protect their own interests. Security and defensibility of resources are paramount for these privileged rich elites. An impoverished majority exists outside the fortress. Policy and regulation exist but enforcement may be limited. Armed forces act to impose order, protect the environment and prevent a societal collapse.

Philosophy

The *Fortress World* mindset was foreshadowed by the philosophy of Thomas Hobbes (1651), who held a pessimistic view of the nature of man and saw the need for powerful leadership. While it is rare to find modern Hobbesians, many people believe, in their resignation and anguish, that some kind of a *Fortress World* is the logical outcome of the unattended social polarisation and environmental degradation they observe.

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The scenarios address local spatial and institutional contexts, possibilities for urban renewal, citizens' attitudes, etc.:

Urban Futures Method applied to The Plan for the Sustainable Development of Public Transport				
Necessary Conditions	**New Sustainability Paradigm**	**Policy Reform**	**Marker Forces**	**Fortress World**
Individual willingness to change travel behaviour	Citizens understand the necessity for sustainable behaviour, no one needs to force anyone	Individuals might not be ready to resign from the comfort offered by cars unless they are forced to do so by burdensome restrictions/charges	Possible if the quality of public services is sufficient and their prices are competitive, however, materialist and consumerist attitudes might be a huge obstacle	The elites travel individually, unless an extra luxurious mode of collective transport is on offer. However, that would only be available for the privileged. The poor use public transport since they have no other option
High parking charges in the city centre	The policy of discouraging people from using private transport results from high ecological awareness and has widespread approval	The authorities aim to discourage citizens from using private cars. This financial tool is very efficient, even faced with consumer attitudes	Parking charges generate an economic profit for local authorities so they are perceived as a useful tool. Reduced car traffic in the city centre is rather a side effect	Private access to the city centre is only restricted for the poor. The elites from the fortress will somehow be excluded from those regulations - probably other financial mechanisms would be in force for them
Efficient cooperation between local and regional authorities	The authorities representing ecologically aware citizens cooperate in order to maximise the efficiency of public services	The authorities recognise a problem of car dependency and together aim to create an efficient public transport system	Possible if that positively affects private business, however, the fragmented governance structure might be an obstacle	Perhaps, if the elites at local and regional levels have set convergent objectives
Sufficient financial resources for investment and maintenance	People understand the necessity of investing in public (common) property. They are used to high quality infrastructure and efficient public services	The authorities recognise the necessity for sufficient maintenance of the urban tissue and service provision. They provide continued financing	Proper financing provided rather within private entities e.g. tackling commercial travel services. Public infrastructure and services are less concerning for the authorities	Facing the general scarcity of resources, financial support for public infrastructure is also critically limited. However, public property within the enclaves of the rich is continuously well maintained
Public transport scheduled according to actual travel needs	Modern technological advances allow easy gathering of information on travel demand and optimisation of public services	The authorities are interested in efficient planning for public services therefore solid data on travel demand is collected and the public transport system is adjusted accordingly	This is economically viable for bodies tackling collective transport. Due to increased accessibility of the city to the masses of the workforce, the market is more effective	Public transport is poorly organised unless the elites are interested. However, they travel separately from the masses and optimisation of public transport won't bring any profits to the enclave
Reliable public transport	Citizens expect high-quality services and the authorities provide that	The authorities provide high-quality services to discourage citizens from consumer practices	Necessary in order to provide smooth flows for business activities. However, public bodies might occasionally be less efficient	Both, public infrastructure and the fleet are subject to underinvestment due to resource shortages. Delays and breakdowns are common
Competitive prices for public services	Environmental concerns lead to prioritising public transport, also with regard to pricing. Free of charge public transport might be possible	Public policy supports collective transport. Prices are competitive due to constant subsidies	There is no subsidising in a market forces world. Transport services are also offered by private bodies which aim to maximise their profit	Prices for public transport might be high due to resource scarcity, however, using private vehicles would be relatively more expensive

Minimising the travelling time and complexity of a journey	Due to high-tech development and modern management travelling is as short and convenient as possible	The authorities aim to make public transport convenient, but as consumer-oriented citizens resist, their efforts might not be fully effective	Travelling time and convenience are only optimised to a certain point. It is not a major concern for the authorities	The elites are not concerned by the quality of public services outside the fortress. They don't travel by the same means of transport as the poor so travelling time and convenience are not their priorities
Safe travelling by public transport	All places are safe; society relies on high behaviour standards	The authorities monitor vehicles and the public space in order to avoid any threat	Safety is assured due to economic reasons (more efficient flows)	Safety is attributed only to the enclaves of the elites, the remaining urban space will be out of formal control
Eco-friendly power supply for public transport	This solution fits in perfectly with the sustainability paradigm	This is enforced by state regulations	Only because of resource shortages and if it is economically reasonable	Perhaps, if conventional resources are unavailable, however, this scenario assumes that environmental problems are not solved

Key: condition highly unlikely to continue in the future condition is at risk in the future condition highly likely to continue in the future

POLICY IMPLICATIONS

Time management: Although the procedure for preparing a plan for the sustainable development of public transport is long and resource consuming, a major recommendation of this policy brief is to prepare it at the earliest opportunity, yet without unnecessary haste. A policy that has been established on solid knowledge and is well thought-out is more immune to political turmoil. Moreover, it is necessary to have a schedule disseminated in advance, particularly if a problem is being tackled constantly, on a regular basis. That allows for an adequate reaction to changing patterns of travel behaviour, passenger demand, and any other crucial factors. It also encourages stakeholders to be involved. Knowing the plan of action reasonably in advance, they are able to manage their time more effectively. Not being surprised makes them less prone to refuse active support.

Expertise and clear organisation of tasks: Making use of the most recent knowledge and expertise in the field of urban transport, logistics, economics and socio-economic geography is strongly recommended. The plan for the sustainable development of public transport, like any other act of urban planning, must be developed beyond organisational and disciplinary divisions. Therefore it not only has to involve the managing body responsible for public transport, but also the support of other communal units tackling related issues (urban strategies, engineering, design, investment, renewal, etc.) as well as external bodies (experts in logistics, geographers, sociologists, NGOs etc.) is required. Although this may seem obvious, this is not everyday practice within the managing bodies responsible for transport. Neither does constant shifts in the assignment of duties between different bodies foster resilient solutions. The people involved in developing the plan must be clear about what others do and have an insight into other relevant activities. That will result in a more accurate reflection of the provisions in related planning and strategic documents.

Enhancing collaboration: Establishing a resilient public transport policy requires considerable organisational and financial effort. In order to overcome limited resources and capabilities, the existing cooperative bonds must be strengthened and new parties interested in the collaborative activities that are sought. Academia should be addressed first, especially in cities with considerable academic potential. Researchers, students and their tutors, could be involved in a variety of ways (designing tools, making surveys, preparing raw data for further analysis, monitoring, etc.). Among the forms of collaboration there are e.g. joint research projects with external funding, combining field practice with institutional activities, establishing a list of topics for Masters' and PhD theses. However, such cooperation requires the employment of motivational factors for each interested party (e.g. a formal statement for students on completing an apprenticeship, the possibility of publishing at least part of the researchers' results, etc.). The result will be a multifaceted chain of benefits, making it a "win-win game" for all.

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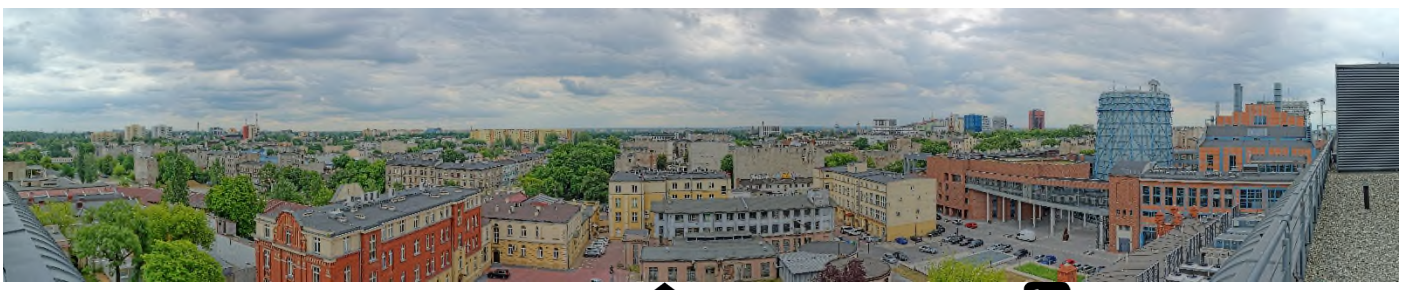

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