

Strategic Goals for Physical Activity Reflected in Urban Planning Documents

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Abstract. Different European countries have objectives developed at the national and local strategic levels, describing general aims of physical activity promotion and general requirements for urban environment to encourage active lifestyle. However, there is a gap between strategies and specific urban planning and design solutions, as objectives described in different strategic documents often do not appear in any planning and design guidelines, making those objectives quite difficult to achieve.

This article demonstrates research on 10 European countries' national strategic documents, and capitals' strategic and urban planning and development documents, which address urban planning and design to promote physical activity. Having active living or physical activity strategic objectives at the national level, only some of the analysed countries have national cycling plans. Furthermore, only few capitals showed physical activity strategic objectives integrated in urban planning and design guidelines at the regional level. Based on the chosen case studies, interconnections between types of cycling related planning documents and physical activity levels is analysed.

Keywords. Active living; physical activity; urban planning; national strategies; cycling plans.

Introduction

According to World Health Organization research data, physical activity plays a crucial role in reduction of obesity and other related health problems. In addition, tools and guidelines used for promotion of a more active lifestyle contribute to development of more sustainable and nature friendly environment. There are the Global Recommendations on Physical Activity for Health for both adults and children (World Health Organization, 2010). According to these recommendations, children require at least 60 minutes of moderate to vigorous-intensity physical activity daily, in turn adults and seniors (aged 65>) require at least 150 minutes of the moderate-intensity aerobic activity weekly. Unfortunately, the national research data shows that approximately one third of Europeans do not meet the recommended physical activity level. There are various factors influencing the increase in sedentary lifestyles. So, for example, rapid urbanization, urban sprawl, increasing use of motorized vehicles, as well as changes in leisure time habits result in insufficient physical activity among both children and adults (Cerin et al., 2016). According to World Health Organization reports and previous research, urban built environment can encourage or discourage people's physical activity. Relating to this data, various design guidelines and practical advice has been developed (NSW Department of Local Government, 2006; UKACTIVE'S Blueprint For an Active Britain, 1991–2015). Different European countries have objectives developed at national and local strategic levels, describing general aims to promote physical activity and fields of improvement.

Methodology

Based on factsheets on health-enhancing physical activity in European Union member states of the WHO European region, countries with national strategies on physical activity were selected. In order to check the current situation in EU countries and in

particular in their capitals with different population density, population number, area, geographical characteristics and climate, countries from different regions of Europe were chosen. Based on previous research data, which shows the importance of cycling infrastructure in relation to active lifestyles, in addition to Physical Activity action plans, also an availability of National Cycling plans was checked. Then it was investigated whether the physical activity promotion objectives appear in the capitals' cycling infrastructure planning guidelines.

National strategies

In recent years more and more attention is paid to the importance of physical activity for people's health and well-being, and to urban environment determinants of active lifestyle. The World Health Organisation has developed certain recommendations on minimum physical activity required for adults, including seniors, to ensure healthy lifestyles (http://www.who.int/dietphysicalactivity/factsheet_adults/en/: Nov 2016). Based on these recommendations, the level of inhabitants' physical activity in European Union member states of the WHO European region has been measured. In order to encourage work on active lifestyle promotion and to ensure that member states are moving in the right direction, as well as to collect data on strategies and tools implemented to promote physical activity, factsheets have been developed (<http://www.who.int/dietphysicalactivity/pa/en/>: Dec 2016). The factsheet data shows the prevalence of physical activity on everyday basis in adults, in addition providing information on national strategies to promote active living (Figure 1.).

Country	Adults (aged 18+) meeting WHO recommended physical activity levels (2010)	
	Males (%)	Females (%)
Austria	78,9	68,7
Germany	79,9	73,5
Spain	68,7	64,2
Czech Republic	75,9	71,8
UK	67	55
Netherlands	84	80,3
Latvia	80,7	72,7
Sweden	73,7	64,2
Slovenia	60,6	56,9
Poland	85,6	74

Figure 1
WHO recommended physical activity levels.

Different EU member states were chosen to ensure the analysed capital cities' geographical, economic and demographical diversity. Regardless of population, territory size or geographical circumstances, the problem of insufficient physical activity remains the same. As the analysis of national strategic documents shows, also solutions to promote physical activity are similar in different EU countries. Taking into account that physical inactivity is one of the causes of cancer, diabetes and ischaemic heart disease (Martinez-Gomez et al., 2010), the countries try to integrate promotion of physical activity in national strategic documents, by including objectives focused on active living into general health promotion strategic documents or even developing independent documents, such as *National Action Plan Physical Activity in Austria* or *Action plan to promote physical activity in the Czech Republic for the years 2016–2020* in the Czech Republic (http://www.bmgf.gv.at/home/Nationaler_Aktionsplan_

Bewegung: Jan 2017; http://ec.europa.eu/assets/eac/sport/library/factsheets/czech-rep-factsheet_en.pdf; Dec 2016). All ten of the chosen countries have physical activity promoting objectives integrated into other national strategies or as independent documents, which proves the understanding of importance of this issue (Figure 2).

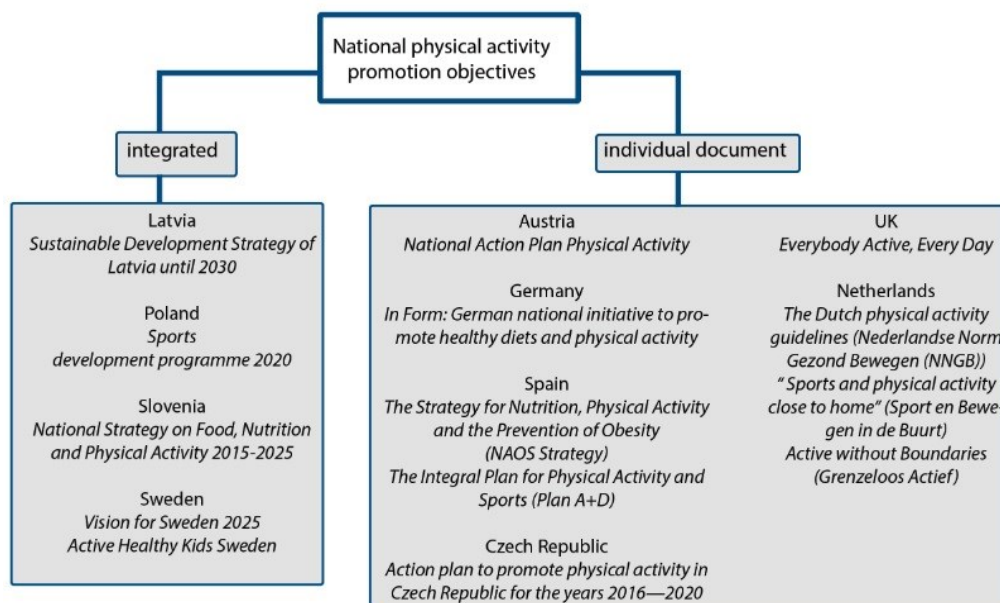


Figure 2
National strategies on Physical Activity.

According to R. K. Dishmann, J. F. Sallis and D. R. Orenstein (1985) there are various determinants of physical activity and exercise. Personal characteristics, environmental characteristics and activity characteristics can all influence people's choice to be physically active. As a result there is also a wide range of physical activity promotion objectives. Analysis of national strategies on physical activity shows four main directions in promotion of active living:

- Awareness raising / advertising;
- Education;
- Involvement of public health services;
- Transport, environment, urban planning and space organization.

As show analysis of national strategic documents, further these main directions may include:

- Distribution of information about various types of physical activity and their influence on people's health;
- Promotion of physical activity events and introduction of „physical activity” days;
- Advertisement of active living;
- Involvement of public health services in active information on advantages of physical activity;
- Creation of a network to support cooperation of various institutions in promotion of physical activity;
- Provision of financial support;
- Support of communities and nongovernmental organisations;
- Development of new physical activity supportive programmes;

- Introduction of physical activity promoting guidelines into planning documents;
- Urban design to promote active living etc.

According to this data in relation to promotion of physical activity more attention is paid on society's awareness raising and education, than on environment transformations.

Descriptions of physical activity promotion objectives often appear to be general, focusing on the description of importance of physical activity, avoiding description of specific improvement fields. However, in certain cases, such objectives are more specific and can be more easily transferred from non-binding action strategies to regional or local binding planning guidelines. As, for example, Austria's *National Action Plan for Physical Activity* has specific points dedicated to urban environment, urban design and transport in relation to physical activity. Description of cycling and walking promoting environment includes general characteristics, such as road length, urban density, connectivity of different points of interest and green spaces, and road safety. Such points can be developed into more detailed guidelines. Yet, in other cases, physical activity promotion aims included in national health action plans as chapters or even subchapters, are often too generalized.

Based on previous research data, recreational cycling and cycling for travel appears to be one of the most common moderate intensity activity types. That is why, national cycling strategies, focused on more specific active living promotion targets, can prove more effective. According to the analysed data, 6 out of the 10 chosen countries have national cycling plans. Spain and the United Kingdom don't have national cycling plans, however each country of the UK has its own national strategies, and Andalusia (autonomous region of Spain) has also developed its own *Cycling plan of Andalusia* (https://ws147.juntadeandalucia.es/obraspublicasyvivienda/publicaciones/10%20TRANSPORTES/PAB_2014_2020/PAB_2014_2020_english.pdf: Jan 2017). In case of United Kingdom absence of national cycling strategy appears to be reasonable, taking into account geographical and regulatory differences.

Cycling infrastructure planning guidelines in capital cities

In order to ensure strategic goals are achievable, they need to be linked to city plans. General objectives described in strategic documents should be transformed into more specific guidelines, describing desirable characteristics of urban environment, like density, interconnection, road width, diversity etc. Cycling is one of the ways to reach recommended physical activity levels and so cycling strategies, plans, programmes and policies can play an important role in active lifestyle promotion (Downward & Rasciute, 2015).

Nr.	Country	Capital city	Name of the analysed cycling related document
1	Austria	Vienna	<i>Cycling Master Plan</i>
2	Germany	Berlin	<i>New Cycling Strategy fo Berlin Verkehrssicherheitsprogramm Berlin 2020</i>
3	Latvia	Riga	<i>Mobility Thematic Plan – a supplementary document for City Territory Plan 2018-2030</i>
4	Sweden	Stockholm	<i>Cykelplan Urban Mobility Strategy</i>
5	Czech Republic	Prague	<i>Certain regulations integrated in Czech Law Act No. 361/2000 Coll (Road Traffic Act)</i>
6	Slovenia	Ljubljana	<i>Mobility Management Plan</i>
7	Spain	Madrid	<i>Bicycle Mobility Master Plan</i>
8	Poland	Warsaw	<i>Warsaw's standarts for design of cycling systems</i>
9	UK	London	<i>Bicycle Master Plan</i>
10	Netherlands	Amsterdam	<i>Long-Term Bicycle Plan 2012-2016</i>

Table 1
Cycling related documents of selected capital cities.

Following objectives set up on a national level, certain capitals adapt cycling master plans, as well as integrate certain guidelines in other transport and urban planning related documents. So for example, Vienna, in its Cycling Master plan has specific characteristics of cycling friendly environment. Also Austrian Road Traffic regulations have included permission of shared road space development. Introduction of legal statements promoted creation of new shared spaces, so creating more cycling and walking friendly environment and promoting physical activity.

Non-binding cycling related plans

Mobility management or master plans with detailed guidelines can have a positive effect on promotion of cycling, even remaining a non-binding document. Mobility Management Plan of Ljubljana, being non-binding document, in turn provides specific tools to reach described objectives. So for example, promotion of walking and cycling aimed to be reached by overall calming of the traffic, overall improvement of traffic regimes respecting cyclists, improvement of the conditions for cycling and walking (file:///C:/Users/Alice/Downloads/Mobility+management+plan+for+the+city+of+Ljubljana%20(3).pdf: Oct 2016). Those general objectives are further complemented with specific guidelines, like: diminishing of most dangerous obstacles for cyclists (with detailed obstacle description), improvement of pavement quality (with specific pavement examples), introduction of „side corridors” (with overall description of desirable places for „side corridors”) etc.

Ordinance Mobility in the City of Madrid has cyclists’ travel behaviour regulations, describing necessary bike equipment, speed, movement direction using general roads etc. Bicycle Mobility Master Plan aims introduction of cycling as a common travel mode in Madrid (<http://www.madrid.es/UnidadesDescentralizadas/RelacionesInternacionales/Publicaciones/CatalogoBuenasPracticasIngles/MobilityTransport/6.Plan%20Director%20Movilidad%20Ciclista%2014%20ENG.pdf>: Jan 2017). Being non-binding document, this Bicycle Mobility Master Plan can yet be considered as one of the best examples of general goals’ transformation into specific guidelines. Bicycle Mobility Master Plan offers detailed description of cycling friendly environment components and even exemplar street section drawings, showing desirable lane width and organisation for various transport types. As a result, this plan already

promoted development of cycling infrastructure, promotion of cycling mobility and integration of new regulations for cyclists in the *Ordinance Mobility in the City of Madrid*.

The Bicycle master plan of London is similar to the Madrid's Bicycle Mobility master plan having detailed cycling infrastructure development and cycling promotion guidelines (<https://www.london.ca/city-hall/master-plans-reports/master-plans/Documents/Bicycle-Master-Plan.pdf>; Dec 2016). The master plan includes guidance on cycling facility design, infrastructure planning, timing and prioritization of bicycle route signage etc. Also having supplementary materials with street section exemplary drawings, and checklist of more important road characteristics determine use of bicycles for travel or recreation, this document works as a full guidebook for cycling/walking friendly environment creation.

Amsterdam as a city with long cycling history and a capital of the country with highest physical activity levels among the selected ten states. Amsterdam has a *Long-Term Bicycle Plan 2012-2016 (Meerjarenplan fiets 2012-2016)* and a cycling policy integrated in *Amsterdam Mobility Policy* (<http://urbantransform.eu/wp-content/uploads/sites/2/2014/09/PlanAmsterdam-Cycling-policy-and-design-PDF-2MB.pdf>; Jan 2016). Cycling policy includes detailed guidelines on road safety, infrastructure, parking, insuring development of sustainable friendly environment for everyone.

Legally binding cycling related documents

Further to previously described non-binding mobility plans, cycling related guidelines in some countries appear also in legally binding planning documents. The Berlin Cycling Strategy is an integral part of the city's transport development plan for sustainable mobility (http://www.stadtentwicklung.berlin.de/verkehr/politik_planung/rad/strategie/download/radverkehrsstrategie_senatsbeschluss_en.pdf; Jan 2017). This strategic document includes general objectives on cycling, pointing out fields of activity and measures. Having separate Traffic and Road Safety Programmes, also separate Cycling crossing creation regulations, which are all binding documents, results development of a safer road environment (http://www.stadtentwicklung.berlin.de/verkehr/politik_planung/sicherheit/download/verkehrssicherheitsbericht2016.pdf; Jan 2016). As according to various questionnaires and strategic objectives, safety appears to be one of the leading factors when choosing traffic mode and directly influences our decisions to be physically active, these binding programmes play crucial role in active lifestyle promotion.

Concerning the growing interest in cycling in terms of the new Riga Territory Plan 2018-2030 development, special attention was paid for cycling infrastructure further development and integration into existing road infrastructure (<http://www.rdpad.lv/rtp/izstrades-stadija/tematiskie-planojumi/>; Jan 2016). The Road Traffic department has integrated specific road signs and traffic regulations concerning cycling, however there is still lack of urban design binding regulations, which would help to create cycling-friendly, qualitative environment. Road and street development standards, which is a binding document, include only couple of sentences concerning necessity of including information on cycling lanes in the project, in case these are planned. At the moment, a lack of more detailed cycling program results chaotic bike parking allocation and in some cases insufficient lighting and signage on cycling roads. However, development of cycling infrastructure, integration of cycling road signs and strategic objectives is a step forward the more cycling-friendly environment and so promotion of active lifestyles.

Prague doesn't have a separate document on cycling infrastructure development and cycling related regulations, however certain regulation related to basic condition for

road traffic participants and specific regulations on cyclists' behaviour on the cycling lane are set up in *Czech Law Act No. 361/2000 Coll (Road Traffic Act)*. Urban design and planning regulations in relation to cycling infrastructure are also introduced in Warsaw's standards for design of cycling systems (Standardy Projektowe i Wykonawcze dla Systemu Rowerowego W.M.ST. Warszawie). This is a binding document including regulations on road classification, road width, side border high, road pavement etc. Integration of binding document can be considered as one of the reasons of active bicycle use, introduction of cycling activities, and connection into national and international cycling routes. As can be concluded from this example, investment in binding cycling infrastructure development regulations positively effects not only physical activity, but also promotes international cooperation and tourism.

Conclusion

Considering variety of physical activity types and modes, promotion of active lifestyle can be incorporated in different sectors. Urban environment is one of the leading factors influencing people's decisions to be physically active outdoors. Safety, road quality, urban density and interconnection, provision and quality of green infrastructure and other urban environment characteristics are considered to play a crucial role in promotion of walking and cycling.

As showed the study of ten European Union member states of the WHO European region, all of the analysed countries have physical activity promotion objectives. However, only six of ten countries have national cycling strategies. Research showed that on the national level, promotion of physical activity is more likely connected to educational and social promoting objectives, rather than urban environment supportive goals. Integration of sport programs and physical education support appears to be one of the most common objectives in the analysed strategic documents.

Yet, some countries have specific physical activity promotion objectives reflected in urban environment characteristics. So the Austrian *National Action Plan Physical Activity* incorporates specific objectives on promotion of walking- and cycling-friendly urban environment.

Comparison of the type of cycling related plans and the level of physical activity showed that there is no direct relation between existence of legally binding cycling promoting guidelines and physical activity degrees.

Focusing on cycling strategies, plans and programmes, showed that lack of national cycling programmes doesn't have an expressed negative effect on regional cycling policies. Research showed that only three of ten analysed capital cities have legally binding cycling infrastructure development documents. However, study on the other non-binding plans and mobility strategies showed that in certain cases level of detailed elaboration promotes effective use of guidelines even being not legally binding.

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