

Promoting physical activity and active living in urban environments



THE ROLE
OF LOCAL
GOVERNMENTS

THE SOLID FACTS



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Peggy Edwards and Agis Tsouros

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Abstract

People's participation in physical activity is influenced by the built, natural and social environments in which they live as well as by personal factors such as sex and age and ability, time and motivation. Local governments have a crucial role to play in creating environments that promote opportunities for physical activity and active living. This booklet concisely overviews the best available evidence on physical activity in the urban environment and makes suggestions for policy and practice based on that evidence.

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The World Health Organization was established in 1948 as the specialized agency of the United Nations serving as the directing and coordinating authority for international health matters and public health. One of WHO's constitutional functions is to provide objective and reliable information and advice in the field of human health. It fulfils this responsibility in part through its publications programmes, seeking to help countries make policies that benefit public health and address their most pressing public health concerns.

The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health problems of the countries it serves. The European Region embraces some 880 million people living in an area stretching from the Arctic Ocean in the north and the Mediterranean Sea in the south and from the Atlantic Ocean in the west to the Pacific Ocean in the east. The European programme of WHO supports all countries in the Region in developing and sustaining their own health policies, systems and programmes; preventing and overcoming threats to health; preparing for future health challenges; and advocating and implementing public health activities.

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The Solid Facts Series

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Peggy Edwards and Agis Tsouros

Foreword

Physical activity is an essential component of any strategy that aims to seriously address the problems of sedentary living and obesity among children and adults. Active living contributes to individual physical and mental health but also to social cohesion and community well-being. Opportunities for being physically active are not limited to sports and organized recreation. They exist everywhere – where people live and work, in neighbourhoods and in educational and health establishments.

The way we build our cities, design the urban environment and provide access to the natural environment can be a great encouragement or a great barrier to physical activity and active living. Other barriers exist in the social environments within which people work, learn, play and live. Many of the people suffering the greatest negative health effects relating to obesity and chronic diseases are those experiencing poverty and social disadvantage. Addressing the needs and contributions of all citizens in different settings of everyday life is a prerequisite for ensuring equity and comprehensiveness in efforts to promote physical activity and active living.

This booklet is primarily written for local governments and other officials in local government. It is also directed at policy-makers and leaders in health services, education, workplaces, mass media, sports and recreation – all of whom have important roles in ensuring that a healthy city is an active city. The publication will also be of particular interest to cities that are part of the Healthy Cities movement in the European Region and beyond.

The local or city level best captures the essence of active living. Mayors: the challenges of obesity, chronic disease and sedentary living in the European Region can only be tackled effectively through the concerted efforts of national, regional and local governments. You can make a significant difference in this joint endeavour. Welcome aboard.

Gudjón Magnússon
Director, Division of Health Programmes

Preface

This publication provides a concise overview of the best available evidence on physical activity and the urban environment and suggestions for policy and practice based on the evidence. A series of spotlights briefly describe some exemplary policies and programmes from cities around Europe, and Annex 1 presents contact details for further information.

The evidence on the built environment and physical activity presented here comes from two major sources: studies on urban planning that primarily examine the connection between the built environment and walking and cycling as modes of transport and studies on physical activity that examine the connection between the urban environment and physical activity in its broadest sense, including active transport, sport, recreational activity and playing in the park. Together, they indicate the importance of accessibility (determined by land-use patterns and the transport system together), design and aesthetics in promoting physical activity and active living.

The causal relationships between active living and the physical and social environments may be considerably more complicated. However, creating opportunities for active living should be a priority in urban planning that is concerned with public health, a sustainable environment, cost-effectiveness, social cohesion and the creation of a people-friendly, attractive city.

We hope that this publication will promote awareness, informed debate and, above all, inspire commitment and action.

Peggy Edwards and Agis Tsouros

Key messages

Governments at the local, regional and national levels are challenged by dramatic increases in the frequency of chronic diseases, obesity and sedentary lifestyles. Physical inactivity is a major contributor to these problems.

Physical activity is beneficial to health at all ages. It is especially important to the healthy development of children and young people; active ageing can make a dramatic difference to the well-being of older people.

Active living also positively contributes to economic prosperity and social cohesion in cities. Taking part in physical activity increases opportunities for socialization, networking and cultural identity.

Promoting physical activity requires the involvement and cooperation of all levels of government (national, regional and local), with clear roles and commitments for each level.

Local governments have a crucial role to play in creating environments and opportunities for physical activity and active living. City leaders and other decision-makers can provide leadership, legitimacy and an enabling environment for developing and implementing policies that support active living for all citizens.

Peoples' participation in physical activity is influenced by the built and natural environment in which they live, by the social environment and by personal factors such as gender, age, ability and motivation.

Design elements in the built environment, such as street layout, land use, the location of recreation facilities, parks and public buildings and the transport system can either encourage or discourage physical activity. People are more active when they can easily access key destinations such as parks, green spaces, workplaces and shops.

Other barriers to active living include fears about crime and road safety, transport emissions and pollution, problems with access and/or a lack of recreation and sport facilities and negative attitudes about physical activity and active transport.

Disadvantaged people and especially people with low income tend to be less active in their leisure time because they are less able to afford and access programmes and facilities and more likely to live in neighbourhoods with crime and traffic safety problems.

Local strategies and plans should aim at promoting physical activity among people of all ages, in all social circumstances and living in different parts of cities, with special attention to equity, deprivation and vulnerability.

Opportunities for physical activity need to be created close to where people live, together with creating cleaner, safer, greener and more activity-friendly local environments. Partnership-based strategies should focus on promoting physical activity in different settings (such as neighbourhoods, health care settings, workplaces, schools and transport systems) and on making the active choice the easy choice.

In Europe, walking and cycling can replace many car trips. Traffic-calming measures, infrastructure such as cycle lanes, tracks and paths and policy changes at the local level can increase pedestrian and bicycle travel. More people will walk and cycle if the traffic speed is reduced and convenient and safe infrastructure is built such as cycle lanes, tracks and paths and policies are changed at the local level.

Effective partnerships at the local level are key to success. Efforts to enable and encourage physical activity require the cooperation of the urban planning, housing, transport, public health, social services, education and sports sectors as well as the private and voluntary sectors.

The health care sector is well positioned to take both a leading and supporting role in reducing obesity and promoting physical activity for all citizens and to seek out partnerships that will enhance opportunities for active living.

1. Active living, health and local leadership

Governments face a dramatic increase in the rates of chronic disease, obesity and sedentary lifestyles. Civic leaders can address these challenges by providing opportunities for physical activity and active living that improve the health and vitality of both their citizens and their cities.

The inactivity problem

Although countries vary greatly, two thirds of the people 15 years and older in the European Union are not physically active at recommended levels (1). Across the WHO European Region as a whole, one in five adults engage in little or no physical activity, with higher levels of inactivity in the eastern part of the region (2). Across Europe, only about one third of the schoolchildren surveyed appear to meet recognized physical activity guidelines (3). These disturbing findings reflect an ongoing decline in physical activity across all age groups during the past several decades. This is largely due to the mechanization of work and daily tasks, the increased use of cars instead of walking or cycling, increases in sedentary work, the use of labour-saving devices and an increase in inactive leisure pursuits (such as watching television and using a computer).



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Copenhagen is well known as a cycling city. Every day, cyclists travel more than 1 million kilometres in the city, using a sophisticated and safe set of cycle tracks and lanes throughout the city (4).



© Greece/Hellenic Center for Disease Control and Prevention

“No country can tackle effectively the challenge of obesity and create favourable conditions for physical activity without recognizing the important role of local governments. I am convinced that this is an area that Ministers of Health should find Mayors as natural allies in their efforts to promote healthy living and to prevent and reduce obesity in the young and adult population.”

Dimitris Avramopoulos

Minister of Health and Social Solidarity of Greece

Former Minister
of Tourist Development
Former Mayor of Athens

Low participation in health-enhancing physical activity substantially affects population health. Physical inactivity causes an estimated 600 000 deaths per year in the European Region and leads to a loss of 5.3 million years of healthy life expectancy per year due to premature mortality and disability (2). Physical inactivity increases the risk of many chronic diseases, including cardiovascular disease, diabetes and certain types of cancer. In addition to the human suffering, governments must deal with the financial burdens associated with these diseases and conditions. A report from England estimated the yearly cost of physical inactivity (excluding the costs of obesity) at £12 billion (€17.5 billion) (5). Based on this study and a similar one in Switzerland (6), it is estimated that physical inactivity costs between €220 and €440 per person per year.

Along with dietary changes, declining participation in physical activity has been a major contributor to increases in obesity levels in Europe in recent decades. In some countries more than half of the adults are overweight. An estimated 14 million or more children in the European Union are overweight, of which 3 million are obese. The number of overweight children is increasing by more than 400 000 per year (7).

The European Union Platform on Diet, Physical Activity and Health (7) has identified promoting physical activity as one of five key fields of action for addressing this problem. The Platform provides a common forum for all interested groups to share their plans and experiences in the pursuit of healthy nutrition, physical activity and the fight against obesity (8).

Local solutions

How can local governments help reverse these trends? Approaches focusing solely on changing individual behaviour have limited success. Increasingly, the evidence suggests that policies and practices intended to enable people to be physically active are more likely to be successful if they modify both the physical and social environments (9).

Policy changes at the local level may be particularly effective at encouraging increased physical activity over the long term by making physical activity an easier choice. For example, reducing the speed of vehicular traffic and providing safe cycling and walking routes can lead to increased physical activity and, by extension, to better prevention and control of chronic diseases (10). People are also more likely to walk when land use is mixed (locating shops, schools, workplaces and other destinations close to dwellings). A study (11) showed that when neighbourhoods are divided into four quartiles based on this approach, each quartile increase in mixed land-use that facilitates active living was associated with a 12.2% reduction in the likelihood of obesity. Each additional kilometre walked per day was associated with a 4.8% reduction (11).

Local leadership

Mayors and other elected officials as well as city employees can provide the political legitimacy and technical support that is needed to integrate urban planning and public health policies in a way that supports active living for all citizens. Every day, planning, transport, health, housing, recreation and economic development officials make decisions that affect opportunities for active living. Neighbourhood design, the location of schools and businesses and how local leaders assign priority to cars, cyclists and pedestrians all affect people's ability to engage in physical activity and active living.

What influences physical activity and active living in the urban environment?

The way cities are planned, designed and renewed is strongly associated with the resulting levels of physical activity and health for both individuals and com-

Some key concepts

Physical activity

Physical activity is "any force exerted by skeletal muscles that results in energy expenditure above rest" (12). This includes walking or cycling for transport, dance, traditional games and pastimes, gardening and housework as well as sport or deliberate exercise. Sport usually involves some form of competition, and exercise is usually deliberately taken to improve health (1).

Active living

Active living is a way of life that integrates physical activity into daily routines. The goal is to accumulate at least 30 minutes of activity each day. Individuals may do this in a variety of ways, such as walking or cycling for transport; exercise for pleasure and fitness; participating in sports (both organized and informal); playing in the park; working in the garden; taking the stairs; and using recreational facilities (13).

Health-enhancing physical activity

While all forms of physical activity can be beneficial, the goal is to enjoy health-enhancing physical activity, defined as "any form of physical activity that benefits health and functional capacity without undue harm or risk" (14). This is best achieved by incorporating physical activity of at least a moderate intensity (such as brisk walking and other activities that make you breathe harder and feel warmer) into daily life.



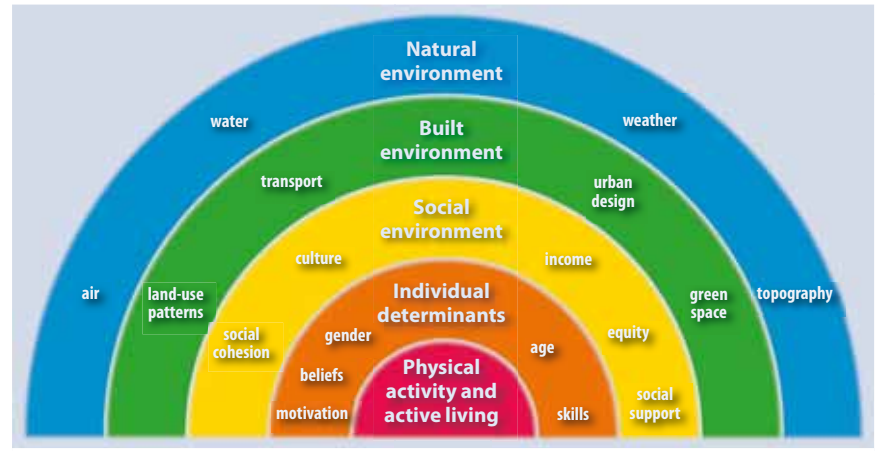
© City of Copenhagen / Helle Moos

"The Copenhagen City Council has decided to make a special effort to turn Copenhagen into a city on the move. We have put exercise and physical activity on the agenda in the shape of a cross-sectoral plan to make all Copenhagen residents more physically active. I hope that, in the years ahead, Copenhagen will be known for making physical activity a part of its citizens' everyday life, so that the healthy choice will become the easy choice."

Mogens Lønborg

Mayor for Health
City of Copenhagen

Fig. 1. Factors influencing physical activity in communities



Source: adapted from Dahlgren (15).

munities. Whether or not an individual, group or whole community will be physically active is influenced by a variety of factors (Fig. 1).



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Several individual determinants influence participation in physical activity including sex, age, skill level, ability and disability, beliefs, attitudes and motivation. Key barriers include a perceived lack of time, a lack of motivation and concerns about safety and security. Addressing these barriers is critical to engaging people in physical activity. For example, if residents believe that a cycle lane or path is dangerous, they will not use it. Factors positively associated with active living include self-efficacy (a belief in one's own ability to be active), enjoyment and an expectation of benefits (2).

The social environment includes several dimensions that are known to influence participation in physical activity, including socioeconomic status and equity. Socioeconomic status tends to be inversely related to participation in leisure-time physical activity, which may be related to people with low incomes having less discretionary time and less access to exercise facilities and green spaces (16). Culture influences attitudes and beliefs about who should be active and the types of physical activity that are appropriate for different sexes, ages and groups. People are more likely to be active when they have the social support and encouragement of family, friends, co-workers and others (16,17). Physical activity provides opportunities to enhance social cohesion in neighbourhoods, cities and regions. The Council of Europe defines social cohesion as “the capacity of a society to ensure the welfare of all its members, minimising disparities and avoiding polarisation” (18).

The built environment encompasses land-use patterns and all buildings, spaces and elements that people construct or modify. This includes homes, schools, workplaces, parks, recreation areas, green spaces, business districts and transport systems. Urban design is an aspect of urban planning that focuses on creating a desirable environment in which to live, work and play. Conditions in the built environment can both negatively and positively affect participation in physical activity. For example, walkable neighbourhoods allow people to make travel on foot an enjoyable part of their everyday lives (19). Green spaces and parks provide citizens with opportunities to socialize and enjoy active recreational activities outdoors. Urban sprawl, large shopping centres on the urban periphery and the geographical separation of living, working, learning and shopping require increased car use and reduce the opportunities for active living in the city.

The natural environment in and around the city also influences participation in physical activity. Weather, especially extreme heat and cold and icy conditions, inhibits participation in outdoor activities such as walking, cycling and playing at the park. Poor air quality makes being active outdoors more difficult.

Access to safe, freshwater lakes and rivers and ocean beaches opens up a host of opportunities for swimming, boating and other activities that attract both residents and visitors to a city. The topography and geography of a city and its surroundings (such as the presence of hills or mountains) influence the types of activities and sports that people can enjoy. Green forests and hilly landscapes provide opportunities for hiking, exploring nature, camping and winter activities such as cross-country and downhill skiing, snowboarding and sledding.

Some key health benefits of physical activity

- Lowers the risk of heart disease and stroke, type 2 diabetes, colon cancer and osteoporosis
- Maintains or increases strength, flexibility, endurance and bone density
- Reduces the risk of falls among older people
- Improves mental health and mood, relieves symptoms of depression and anxiety and improves social skills and self-esteem
- Helps with weight maintenance or loss, reducing body fat and increasing muscle mass (1,20)

2. Physical activity: a vital investment

Policies and reforms that enable and encourage active living can help to reduce the public health problems discussed in the first chapter. Such policies and reforms can also be made consistent with other urban planning, environment, energy, public health and economic development goals. Here are some of the additional reasons for local governments and their partners to invest in physical activity.

A solid economic investment

Creating and maintaining an active city can help reverse human suffering and the high economic costs of inactivity in terms of health and social services. A United States study (21) found that physically active people have lower annual direct medical costs than inactive people and showed that increasing regular moderate physical activity among inactive adults might reduce the annual national direct medical costs by many billions of dollars (21). Employers also benefit, since having a physically active workforce can lead to reductions in absenteeism and increased productivity (20).

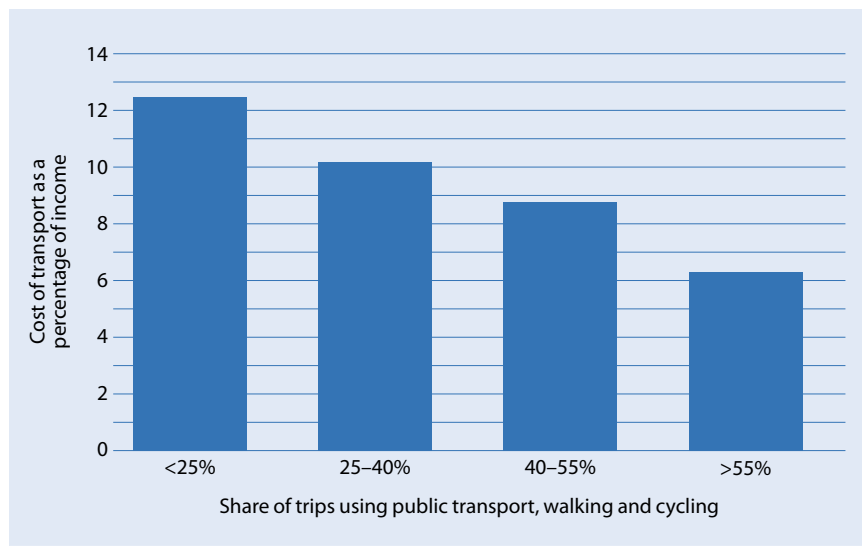


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Heinz Schaden, Mayor of Salzburg, cycles to and from work and to meetings in the city. With his leadership and belief in cycling as a way of life, the city invests on average more than €1 million per year to support this active form of transport.

Cities that spend the least on providing mobility infrastructure for their inhabitants are medium- or high-density towns where trips are already being made mainly using public transport, walking and cycling (Fig. 2). The proportion of community income used on transport rises from less than 6% in densely populated cities where most trips are made by walking, cycling and public transport to 12% in cities where the car is almost the exclusive mode of transport (22).

Fig. 2. The cost of transport for the community as a percentage of community income according to type of transport



Source: International Association of Public Transport (22).

Enhancing social cohesion

Increasing levels of participation in appropriate sport and physical activity can contribute to social cohesion, neighbourhood revitalization and an increased sense of community identity (23,24). Green spaces, skateboarding parks, trails, paths and sports facilities provide a social focus and enhance people's perception of their neighbourhood. Providing equitable and safe opportunities for active living may also encourage the expansion of social networks. This is especially important for members of minority ethnic, racial and religious groups and for older residents.

Stakeholder support

Local governments do not need to promote active living alone. There are multiple stakeholders in the public, voluntary and business sectors. An increasing number of national governments have strategies for promoting physical activity that can legitimize and support efforts at the local level. At the global level, WHO Member States adopted the WHO Global Strategy on Diet, Physical Activ-

Celebrating physical activity worldwide

WHO Member States have agreed to celebrate a Move for Health Day each year on or around 10 May. This is linked to broader initiatives to promote physical activity and healthy lifestyles throughout the year. In 2005, the focus of the Move for Health Day was supportive environments, reflecting the fact that physical activity-friendly environments enable more people to participate and achieve the recommended half an hour per day of moderately intense physical activity (25).

ity and Health (26). In Europe, a WHO strategy on noncommunicable disease was submitted for endorsement at the fifty-sixth session of the WHO Regional Committee for Europe in September 2006, and a charter on counteracting obesity is expected to result from the WHO European Ministerial Conference on Counteracting Obesity in November 2006. Other international instruments that pursue synergistic objectives include the Children's Environment and Health Action Plan for Europe (CEHAPE) (27) and the Transport, Health and Environment Pan-European Programme (THE PEP) (28).

Other public health benefits of active transport

In recent years the use of cars has increased dramatically in European cities, thus increasing the problems related to noise, air pollution and road traffic injuries. Promoting walking and cycling over car use leads to improvements in all these serious public health issues.

Attracting tourism and visitors as well as long-term residents

Many people want to live in and visit places where they can be active, be "out and about" and socialize in active ways. City carnivals, events and winter adventures that feature physical activity and sports are an important way to attract tourism. They are also a mechanism for ensuring that city residents of all ages experience opportunities to participate in traditional, cultural and seasonal activities that support active living in the city and surrounding recreational areas.

SPOTLIGHT: YORK, UNITED KINGDOM

Designing cities around people not cars

The City of York has won numerous awards for developing an integrated transport network that does not rely on private cars and meets local air quality objectives. An integral part of that strategy promotes sustainable active alternatives to the private car that are both convenient and reliable by using public transport, walking and cycling. York was one of the first local authorities to adopt a hierarchy of transport users when making decisions related to land use and transport and in implementing transport measures. The order of priority is:

1. Pedestrians
2. People with mobility problems
3. Cyclists
4. Public transport users (includes bus, coach, water, taxi and rail)
5. Powered two-wheelers
6. Commercial or business users (includes deliveries and heavy goods vehicles)
7. Carborne shoppers and visitors
8. Carborne commuters (29)

3. Challenges and opportunities in the built environment

Challenges: what is known

Design elements in the built environment, such as street layout, land use, the transport system and the location of recreation facilities, parks and public buildings, are all components of a community that can either encourage or discourage active living. They are critical to addressing the challenges planners and elected officials face.

Urban sprawl and growing dependence on cars

In Europe overall, car transport has increased by almost 150% since 1970; travel by public transport has increased far less, and travel by bicycle and on foot has diminished (30,31). Growing dependence on cars is both a cause and result of suburbanization. Many citizens and politicians are aware of the problems associated with urban sprawl. From a public health viewpoint, these include increased air pollution, noise, traffic congestion and road injury risk, increased greenhouse gases and reduced access to pleasant green spaces. In Europe, urban sprawl on the periphery of cities is increasingly common (22).

Urban sprawl has been correlated with higher body weight, obesity and associated chronic diseases (11,32).

Limited room for green spaces

Crowded city centres and a resurgence of urban living may make finding room for green spaces difficult, especially in older, established cities. For example, the proportion of the population within 15 minutes of a green space by walking is only 56% in Bologna, 40% in Bratislava and 36% in Warsaw (33).

Low priority for active transport

In many countries, cycling and walking have been marginalized in transport decision-making. This is reflected in a low share of investment – less than 10%, versus about 65% invested in roads and 25% in public transport (33).

Traffic injuries and fatalities

Traffic injuries and fatalities resulting from high vehicular speed, heavy traffic flow and a lack of separate lanes, tracks and paths are major reasons why people do not walk or cycle in cities. This is especially true for children and older people (34). Lack of sidewalks and protected areas for walking and cycling to school can contribute to increasing collisions involving children (34). Brief traffic signals and wide streets with inadequate lane markings on roadways also compromise the safety of older pedestrians. High vehicular speed, the number

Urban sprawl

Urban sprawl is characterized by several land-use patterns, including:

- low-density land use, such as homes and buildings being spaced far apart and separated by wide roads, landscaping and parking lots;
- separation of land use for different purposes, such as separate areas for shops, offices and recreation; and
- dependence on cars, with homes, shops, offices and recreation being separated by roadways and travelling to work, concerts or shops usually requiring a car.

SPOTLIGHT: THE WOONERF APPROACH

A *woonerf* (a Dutch word that means “street space for living”) is a common space shared by pedestrians, cyclists and low-speed motor vehicles. They are usually streets raised to the same grade as curbs and sidewalks, and vehicles are slowed by placing trees, planters, parking areas and other obstacles in the street. Motorists are treated as intruders and must travel at walking speed. A *woonerf* identification sign is placed at each street entrance. This shared street approach, which has been successfully applied in Germany, the Netherlands and other countries in northern Europe, may be particularly useful to cities that have restricted access to green space.

of kilometres of major arterial streets in a neighbourhood, poorly located bus stops and crosswalks and poor lighting are associated with higher risks to the safety of pedestrians of all ages. Other sources of danger for pedestrians and cyclists include poorly maintained sidewalks and unattended dogs (35).

Other factors in the built environment

Other factors in the built environment discourage active living. These include a lack of quality lighting; a lack of access to open spaces and to sports and recreation facilities; rundown houses and neighbourhoods; poor aesthetics; and locked stairwells in workplaces and public buildings.

Residents’ resistance to change

Well-meant plans to enhance active living may meet with resistance from residents if they do not perceive an overall benefit or if they link active living to lower prestige. In some settings, for example, cycling or taking public transport to work may be seen as a sign of lower status since affluent people typically drive to work.

Opportunities: what is known

Land use and building design

Urban planning and health behaviour studies consistently find that how communities are built influences whether or not people use public transport, drive, walk or cycle to get to their destination (32,36–38).

A study of six countries in western Europe (39) showed a positive relationship between perceived community-based opportunities for physical activity (opportunities in the residential area, local clubs and community support), self-reported levels of physical activity and self-rated health. The health impact is more pronounced among women when good opportunities are available.

Another study involving data on adults in Angers (France), Bonn (Germany), Bratislava (Slovakia), Budapest (Hungary), Ferreira do Alentejo (Portugal), Forlì (Italy), Geneva (Switzerland) and Vilnius (Lithuania) found that more greenery and less litter in residential environments were associated with being physically active and not being overweight or obese (40).

Neighbourhood parks that are within walking or cycling distance of a person’s home or workplace can promote greater physical activity. Paths that link homes, workplaces, commercial centres, public transport and community facilities provide safe and attractive thoroughfares for pedestrians (38).

Although the long-term effects are unclear, more people use the stairs when signs placed by elevators and escalators in a variety of settings (such as metro,

train and bus stations, libraries and shopping malls) inform people about the health and weight-loss benefits of using the stairs (41).

Urban density is related to travel behaviour because it affects the distances between destinations and the proportion of destinations that can be reached by walking or cycling. As density increases, the numbers of hours and kilometres of car travel tend to decline while walking, cycling and the use of public transport increase, everything else being equal (19). People are more likely to walk or cycle when their destinations are nearby. Density and a mix of shops, schools and workplaces encourage active transport. These “traditional” neighbourhoods are typical of many older European cities; however, sometimes people feel unsafe and the infrastructure is hostile to walking and cycling.

Connectivity – the degree to which the street network provides direct and safe routes for pedestrians and cyclists – also influences the choice of active trans-

SPOTLIGHT: LIVERPOOL, UNITED KINGDOM



© Liverpool Sport Action Zone

The grot spot before ...

A needed sports facility in Admiral Park

The new Admiral Park is the result of four years of work involving a unique partnership between three local regeneration agencies: Include Neighbourhood Regeneration, Liverpool Sport Action Zone and Dingle Granby Toxteth Education Action Zone. Working with local schools and the Liverpool City Council, these agencies have been able to turn a local grot spot (a dirty, foul place) into a much needed sports facility for local schools and the community, with grass mini-



© Liverpool Sport Action Zone

... Admiral Park after

pitches, athletic facilities, a multi-use hard court area for tennis, netball and basketball and a modern changing pavilion. Local schoolchildren have been involved throughout the design of the project. Students voted to select the name of the facility and have also designed pictures and artwork that have been incorporated into the site. The car park on the Admiral Park site is shared with the neighbouring police station, an arrangement that increases site security and provides a valuable revenue stream to the facility.

How walkable is your neighbourhood?

Tools such as the Neighborhood Environment Walkability Scale (42) can be used to assess residents' perceptions of what makes a neighbourhood conducive to walking. Typically, they use data from geographical information systems and residents' responses to calculate and measure the following attributes:

- residential density;
- proximity to and ease of access to non-residential facilities such as restaurants and shops (land-use mix);
- street connectivity;
- walking facilities such as walking paths;
- aesthetics;
- road safety; and
- safety and security from crime.

Studies show that residents in highly walkable neighbourhoods consistently rate residential density, land-use mix and street connectivity higher than do residents in poorly walkable neighbourhoods (43).

port. People walk and cycle more when streets and pedestrian facilities connect key destinations (38,44). One study (45) showed that the odds of someone walking for non-work purposes rose by 14% for each 25% increase in the level of street connectivity where they lived.

Although culs-de-sac (dead-end streets) are often used to establish peaceful neighbourhoods, they also isolate residential communities from one another and increase the distance between housing and such functions as shops and workplaces. In existing residential districts around culs-de-sac or dead-end streets, paths should be established between the residential areas to enable people to cycle or walk between them.

Active transport

Access to public transport also promotes physical activity, since many trips involve walking or cycling links. Facilitating pedestrian access to public transport may have the greatest health benefits for people with low incomes, since they are more likely to use public transport and to walk to the access points (19).

In Europe, replacing many car trips with walking and cycling is highly feasible. More than 30% of trips made in cars in Europe cover distances of less than 3 km and 50% less than 5 km. These distances can be covered within 15–20 minutes by bicycle or within 30–50 minutes by brisk walking (46,47).

Case studies in northern Europe have repeatedly shown that traffic-calming measures and infrastructure and policy changes at the local level increase pedestrian and bicycle travel (11,48).

What can local governments do?

Urban planning

- Integrate strategic land-use and transport planning. Work with planning, transport and economic development agencies to ensure that the long-term evolution of the city and region reduces car dependence and promotes equitable access to high-quality public transport.
- Protect the traditional design of older cities and control the further development of dispersed, segregated, suburban land uses, such as business, retail and leisure parks, isolated educational or hospital development and sporadic residential developments, which inherently rely on car access.
- Reduce urban sprawl by improving public transport, restricting car use in the city and embedding workplaces, shops, schools and health care facilities within integrated neighbourhoods that facilitate walking and cycling.



© Healthy Cities Project Office of Kadiköy

In Kadiköy, Turkey, exercise equipment and walkways built at local parks provide people who have neither the opportunity nor the time to go to fitness centres to exercise in the open air.

Active living

- Plan and design for active living. Ensure that community planning documents and guidelines address the impact on residents' ability to engage in physical activity. Carry out health impact assessment to ensure that active living issues are incorporated into land-use review and planning processes.
- Provide recreation and sport facilities, parks, paths and trails. Develop a cohesive system of neighbourhood parks and paths to connect homes with schools, workplaces and shops. Ensure that physical activity facilities are accessible and affordable. Employ park attendants to help and to make children and other guests feel safe.
- Create a comprehensive plan for cycling and walking in existing and future development and integrate the plan into broader transport planning.
- Support cycling with appropriate traffic policies and legislation, expanded networks for cycling, access to city bicycles for short trips and bicycle storage areas in public places. Build separate lanes and tracks for pedestrians, cyclists and cars on busy streets. Provide bicycles for government staff, especially police, park employees and meter-readers, to use on neighbourhood routes.
- Implement traffic control measures such as severe restrictions on speed, 20 km/h zones, adequately timed lights, clearly marked crossings, traffic-calming devices (such as speed bumps) and crossing guards at crucial intersections. Provide clear signs about road traffic patterns to help cyclists, pedestrians and drivers avoid injuries and learn to respect each other's routes.

- Ensure that children have safe places to play. Design streets and neighbourhoods to include safe areas for active play; ensure that housing developments incorporate shared play areas in common spaces; and provide interesting, safe, well-maintained playgrounds.
- Provide a clean and attractive environment that invites people to be active in their neighbourhoods. Provide benches and flower beds on pedestrian streets that include historical sites and shops.
- Support walkable neighbourhoods with greenery, places to rest and attention to historical and cultural landmarks. Maintain sidewalks and keep them clear of ice and snow. Encourage downtown revitalization and discourage large parking and industrial lots.
- Provide people with clear information about the availability of safe and enjoyable opportunities to be active in your city. Design and promote a community-wide active living map of parks, paths, cycle and pedestrian routes and facilities that offer physical activity programmes.
- Provide convenient and visible stairs and signs for public spaces that encourage people to take the stairs.

Investment and financing

- Set a good example. Plan and locate educational, health and social facilities and the city's own offices in ways that deter car dependence and encourage walking, cycling and the use of public transport.
- Increase the budget for creating and maintaining spaces that support healthy, active living. Identify and tap into available funding for active living initiatives from national or European-wide sources, such as programmes to enhance public transport, reduce traffic congestion and improve air quality.
- Give priority to funding for public transport and projects such as sidewalks, paths, traffic calming and cycle lanes, tracks and paths.
- Impose high taxes and fees on parking facilities. Park-and-ride schemes should only be used in low-density areas where existing levels of public transport are inadequate. Locate them as close as possible to the source of the traveller: more peripheral than the edge of the city. Encourage cyclists and walkers to use them as well.
- Consider using congestion charging as a means of reducing car use overall and combining it with financial transfers to improve public transport. This strategy has been successful in several European cities, including London, Oslo and Stockholm. Since congestion charges were introduced in London in 2003, cycle journeys have increased by 20% and road crashes have declined by 7% in the inner zone. Walking and stair climbing have probably also increased as part of the increased use of public transport (49).

SPOTLIGHT: BARCELONA, SPAIN

Reclaiming green spaces and ocean fronts in limited space

In Barcelona, city planning provides high-quality opportunities for people to live and work actively. City planners have accomplished this although the physical site is small and topographical constraints in outward development restrict space for greenery and active living. Faced with serious problems of urban decay, planners took a holistic approach and used the hosting of the 1992 Olympic Games as a vehicle for city-wide reforms. Olympic facilities were spread over four neglected urban areas, with the Olympic Village developed on abandoned industrial land close to the coast. Ocean fronts were reclaimed by constructing six artificial beaches on either side of the Olympic Port. At the same time, a radical transformation of inner city districts began, with a policy of improving social capital and reducing crime. Inner city reforms are continuing. Many of the residential blocks, which had lost their open space to industrial development, are gradually getting green spaces and small neighbourhood parks.

4. Challenges and opportunities in the social environment

The socioeconomic environment presents several challenges and opportunities to local governments wishing to create and maintain activity-friendly cities.

Challenges: what is known

Diversity

Large modern cities often have populations that are highly diverse in terms of age, ability and ethnic and cultural background. The challenge is to take advantage of the various strengths offered by a diverse population while meeting their varied needs. Whether people are young or old and rich or poor affects their reactions to both the built and social environments and how they participate in physical activity. Culture, which is usually linked to ethnicity and race, often influences how specific populations will be active or inactive. Participation in dance, swimming and cycling for example, can be encouraged or restricted by cultural traditions and by attitudes and beliefs related to gender, dress and sport participation.

Inequity

Many individuals and communities – especially people with lower incomes – experience disproportionately higher rates of chronic diseases and obesity associated with less physical activity and unhealthy eating patterns (11). These disparities reflect broader inequity in land use, housing, transport and economic development.

Disadvantaged populations are less likely to be able to afford or access a gym; user fees may prohibit low-income families from participating in recreation programming provided by city government. Disadvantaged populations are less likely to have easy access to the places that encourage a healthy lifestyle, such as safe streets and sidewalks, parks, paths and community gardens (16). When they do choose to be active, they often face disproportionate safety risks related to traffic and the real or perceived risk of crime (50). For example, more child pedestrians are injured in poor neighbourhoods, where children play in the streets, often because they lack access to other safe play spaces (51).

Although people with low incomes are more likely to walk or cycle to shops or work than people with higher incomes, they are less likely to walk, cycle or garden in their leisure time, due at least in part to an unequal distribution of physical activity resources (such as walking trails and paths and private gardens) in rich and poor neighbourhoods (52). Researchers in Eindhoven, the Netherlands

also found that people in disadvantaged neighbourhoods were less likely to participate in sports (53).

For city planners, efforts to promote health through increased physical activity are inextricably tied to issues of social and racial equity. When racial and class tensions persist, greater compactness and connected built environments may be perceived as a threat (54). Although historical institutionalized racial discrimination (such as restricted access to golf courses) is now largely illegal, discrimination based on residential segregation may still influence the availability of opportunities for physical activity and active living.

Social cohesion

Certain groups are particularly vulnerable to social exclusion, including young people, older people (especially those who live alone), people with disabilities, families in precarious life-situations and migrants and ethnic minorities, whose integration into society is of utmost importance to social cohesion. Countries in Europe have different policies related to these issues. The Council of Europe promotes an approach to social cohesion based on equal rights. One of these basic rights is access to optimal health; physical activity is an element essential to health. Although governments have a key role, all sectors of society are responsible for maintaining the capacity of a society to ensure social cohesion and the welfare of all (18).

Concern for personal safety

Some investigators have not found any evidence of a strong relationship between personal safety and levels of physical activity, but studies on sub-populations of women, children and older adults show a stronger positive correlation between real and perceived danger to personal safety and sedentary lifestyles. For example, several studies have found that crime and fear of crime are barriers to exercising and being physically active outdoors among women, especially minority women. Parental concerns about safety curtail children's activity levels, from the use of public spaces such as parks and other play spaces to participation in non-school sports programmes. Other studies have found that older adults may restrict their activity because of concerns about personal safety (36).

Real and perceived personal barriers

In today's hectic world, time and motivation (both real and perceived) are key personal barriers to active living. These barriers, which may result from cultural attitudes and social roles, can be addressed by increasing opportunities for active living in a variety of settings. For example, working mothers who have little free time need opportunities to incorporate active living into their working day and with their children when they are home. Sometimes people's percep-

Gender and physical activity

Although participation levels vary between countries, in the European Union more women (43%) report no physical activity of moderate intensity in the past 7 days than men (38%). Men are more likely than women to report considerable (18% versus 12%) or some (39% versus 35%) leisure-time physical activity (55). Across all countries and regions and all age groups, girls are less active than boys, and the gender gap increases with age (3). Possible reasons for these disparities include gender-stereotyping; a lack of support systems and programmes that are specifically geared to girls and women; under-representation of girls and women in leadership roles related to sport and physical activity; a lack of time due to domestic responsibilities and caring for children and elderly people; and concerns for personal safety, especially at night. Local authorities need to address inequity based on gender and to support role models and events that feature active girls and women.

SPOTLIGHT: STOKE-ON-TRENT, UNITED KINGDOM



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Closing the gap for people with low incomes and socially excluded youth

The city of Stoke-on-Trent is working in partnerships on several strategies to increase physical activity, especially among groups with lower socioeconomic status and youth who are experiencing or are at risk for social exclusion.

The Go5 Project enables primary health care professionals to refer clients to a 10-week programme offering up to five activity sessions per week (such as gym visits,

swimming and led walks) all for a maximum of £10. Delivery partners provide physical activity opportunities at community-based venues and have been selected due to their community focus and accessibility.

Closing the Gap addresses many of the barriers to participating in sport and active recreation socially excluded young people face. The City Council hosts Closing the Gap on behalf of the Stoke-on-Trent Local Strategic Partnership and works in partnership with numerous internal and external groups

and organizations involved in youth services, sport and leisure, equality and crime prevention.

Closing the Gap helps non-sports organizations use sport and physical activity as a tool for meeting their core objectives while also assisting sports groups to better engage with non-traditional partners and to work effectively with young people. These new links have strongly influenced the behaviour of the organizations involved and directly increased participation among the young people for whom they care.

tions of the environment in which they live do not match an objective assessment. For example, an older woman may believe that her neighbourhood park is unsafe for walking even though objective reports and observations state otherwise.

Opportunities: what is known

In any given neighbourhood, policies that improve walkability and land-use mix are likely to increase overall community cohesion. This is partly due to urban design that helps increase personal security and encourages neighbours to watch out for and help each other (19).

Social support is important for health (56). Social support systems (such as walking groups, outdoor tai chi groups and walk-to-school groups) also help people become more active. Studies suggest that social support interventions in community settings (such as neighbourhoods, workplaces and universities)

can result in a 44% increase in the duration of time spent being physically active and a 20% increase in the frequency of physical activity (57).

Comprehensive and sustained community-wide campaigns that involve many sectors in highly visible, broad-based, multiple interventions in combination (such as media promotion, support and self-help groups, community fairs and city events, programmes in the schools and workplaces and the creation of walking paths and trails) can be highly effective in increasing physical activity. These campaigns may also help communities develop a greater sense of cohesion and civic pride (57).

Sports, cultural and environmental associations, and organizations for children, young people and older adults engage many people in voluntary activities and play a particularly important part in building social cohesion. Sport and recreation interventions that involve physical activity have the potential to prevent youth vandalism and crime, particularly when innovative outreach approaches are used (58). Experience in sport and physical activity may result in greater community ownership and enhance the capacity and confidence of community members to tackle wider community issues.

Neighbourhood renewal schemes that include the provision of facilities and equipment for active living (such as basketball courts, skateboarding parks, playgrounds and football fields), small gardens, safe routes to school and public transport stations and the establishment of safe neighbourhood parks can reduce inequity in access and choices for physical activity (23).

Dance and sport provide opportunities to celebrate ethnic diversity and enrich the cultural fabric of city life. However, organized sports must be careful not to do the opposite – to foster exclusion based on ability, gender, race, age, culture and ethnicity or to overemphasize competitiveness.

What can local governments do?

- Conduct equity reviews to ensure that all citizens have equal opportunity to participate in sport and physical recreation programmes regardless of sex, age, race, income level or ability. Take extra steps to ensure that vulnerable populations have access to the same choices and opportunities for physical activity and active living as the population at large. Adopt city recreation policies on gender and race equity in both services and leadership.
- Support sport, active living and cultural organizations and partner with them in programmes that aim to build social cohesion while increasing opportunities for physical activity.

Dog walkers unite!

Research suggests that dog owners spend more time in moderate physical activities than non-owners. One study found that dog owners walked on average 300 minutes per week versus 168 minutes per week among non-dog owners (59). This has important implications for urban design; for example, ensuring that older people can safely walk their dogs in their neighbourhoods and providing off-leash areas where dog owners can enjoy active play with their dogs. At the same time, rules related to safety and cleanliness need to be strictly enforced: no loose dogs in the community and owners must clean up after their dogs.

- Connect affordable housing and active living opportunities. Support walkability, green space development and sports opportunities in disadvantaged neighbourhoods.
- Enable safety, security and crime prevention. Keep pedestrian and cycling routes free from crime; clean up and patrol vacant properties; implement community policing techniques, such as neighbourhood watch groups and neighbourhood police units; and employ design principles that discourage crime and ease resident fears.
- Support the development of a comprehensive campaign to promote physical activity that involves many sectors in multiple interventions. Sponsor and encourage special events that involve physical activity and engage all social groups.
- Celebrate multiculturalism and diversity. Identify and work with various cultures and religions in the community to promote physical recreation and active living opportunities and to find the best solutions for overcoming common barriers.
- Provide information on the availability of safe and accessible parks, walking paths and cycle lanes, tracks and paths, playgrounds, rinks, swimming pools and other facilities as well as on city- and partner-sponsored programmes, sports and activities.



© Maribor / Pingli Dance School

Young people dance on the main bridge in Maribor, Slovenia, on 19 May 2006 as participants in the Quadrille Dance Festival. At noon on 18 May 2007, about 100 000 young people from all over eastern Europe are expected to once again dance to the famous quadrille from Strauss' *Die Fledermaus*.

5. Population groups needing special attention

Opportunities for active living and physical activity are important for everyone, but local governments need to pay special attention to several key population groups. These include individuals and families with low incomes as well as ethnic minority groups (discussed in the previous chapter). Children, people with disabilities and older people often rely on walking, cycling and public transport to move about in the city. These groups require special efforts to enable them to enjoy these active modes of transport. They also have particular needs in terms of support for recreation, sport and leisure-time pursuits.

Children and young people

In most communities, the opportunities of children and adolescents to be physically active have been dramatically curtailed. As discussed in the next chapter, many are bussed or driven to school because of distance and/or road safety concerns. Unfortunately, there is good reason for this concern about road safety: in the European Region, road injuries are the leading cause of death among children 5–14 years old and people 15–29 years old (60). Parents are more reluctant to let children play outside or go to a playground on their own because of fears about road traffic and/or criminal behaviour. Highly exclusive and competitive



© San Fernando de Henáres City Council

San Fernando de Henáres, Spain

sports programmes may be one reason that young people are particularly likely to drop out of sports. Suburbs with wide streets, long blocks, few sidewalks and a lack of mixed land use leave children and young people with “nowhere to go” and may have contributed to the increase in passive indoor recreational activities such as computer gaming and watching television.

Regular physical activity is essential to the healthy growth and development of children and youth. Physical activity also provides social, behavioural and mental benefits to young people. For children and young people themselves, having fun and being with friends are the main reasons for engaging in physical activity and sport.

Most experts recommend that children and youth engage in a total of one hour or more of moderate physical activity on five or preferably more days per week. Although countries in Europe vary widely, only about one third of young people aged 11, 13 and 15 years old met this guideline in 2002 (3).

The limited number of studies and their inconsistent findings present difficulty in answering questions specifically related to community design and physical activity for children (61). However, a review (62) makes two conclusions: among young children the more time spent outdoors, the higher their activity levels; and providing access to facilities, parks and activity programmes is positively associated with physical activity levels among children and adolescents. Even if safe routes, back alleys and cycle lanes, tracks and paths are established, chil-



© Municipality of Sandnes / Tom Sørum

Sandnes, Norway

children may choose not to use them, especially if they are in isolated areas. Children may prefer to be in places where they can be seen and where they can see other people. Including the views and proposals of children and young people in decision-making related to children's mobility is important.

This is also being called for in the Children's Environment and Health Action Plan for Europe (27) and in the Youth Declaration adopted on 24 June 2004 (63), which states that "Young people have a fundamental role to play in the formulation of policy on health and environment, in related decision-making processes and in the building of a healthier and more sustainable world. We are already making real and positive change in our local communities, countries and internationally."

Older people

Older people are heterogeneous and diverse and have varying levels of independence and mobility. The vast majority of older people live in the community and wish to remain there.

It is never too late to attain the benefits associated with regular physical activity. Even modest increases in physical activity can make a big difference in the well-being of older people and in their ability to remain independent and actively contribute to civic life (64,65). Enabling and encouraging increased physical activity among this population group may also be one of the most effective ways of preventing and lowering the high costs associated with health and social services. Despite these facts, older people (especially older women) remain among the least active of all groups. In 2002, more than 60% of Euro-



SPOTLIGHT: JERUSALEM, ISRAEL

In Jerusalem, older people participate in the annual Elderly Sports Day at the Givat Ram stadium, organized by the municipality and JDC-ESHEL, the Association for the Planning and Development of Services for the Aged in Israel.

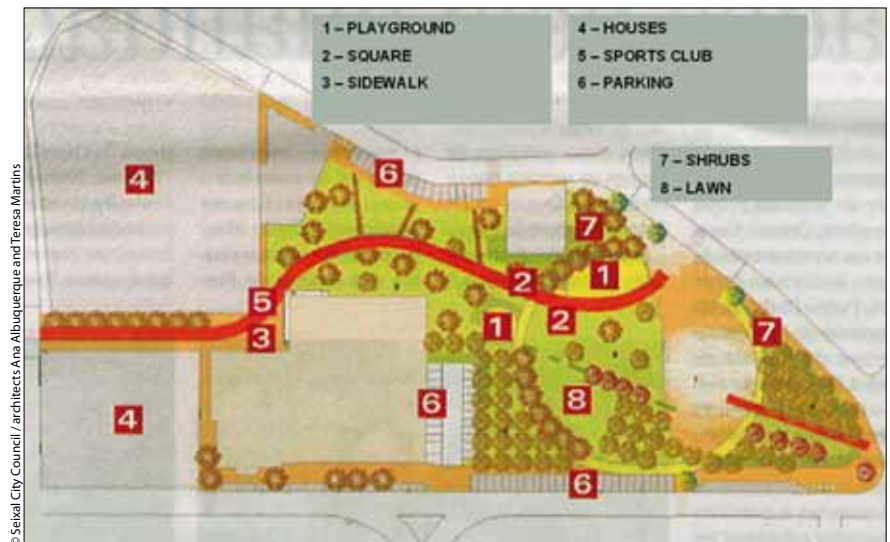
peans older than 65 years engaged in no moderate physical activity in the past seven days (55).

Key barriers for older people include accessibility (for example, compromised mobility may limit the ability to use stairs in undergrounds); safety issues related to weather (such as icy sidewalks) and road traffic (such as unsafe street crossings); ageism (a belief that physical activity and sports are only for the young) and isolation (such as lack of support from others, including health professionals and recreation specialists).

The relationship between the built environment and physical activity levels among seniors has been the subject of a limited number of studies (66). Success is associated with comprehensive approaches that incorporate age-friendly urban design, education, awareness-raising and home-based interventions (67). The ability to make convenient walking trips from home to destinations such as stores, parks and trails, the perception of having safe and aesthetically pleasing surroundings for walking and ready access to green spaces are associated with increased physical activity levels among older people (68).

People with disabilities

People with disabilities represent a large and growing segment of the general population, yet they are often less physically active than those without a disability. Physical activity is vital for people with disabilities, not only to promote health and prevent disease but also to reduce the number of secondary conditions that can result from an initial disability. By adapting activities, changing



Plan of Fanqueiro Park

or modifying the environment or using additional equipment that allows greater participation, people with disabilities can participate in active living (69).

The most obvious barriers for people with disabilities are inaccessible buildings and facilities. Others include economic issues, a lack of transport to recreation facilities, inappropriate equipment, negative attitudes and perceptions, information-related barriers and a lack of professional knowledge and training. A lack of sidewalks and curb ramps at intersections and rough surfaces on trails, paths and greenways make maintaining balance and mobility difficult (69).



The Metropolitan Municipality of Bursa has organized sports activity for people with developmental disabilities: bocce (also known as boules or pétanque).

What can local governments do?

Local governments can create an inclusive, age-friendly environment for active living. This will benefit all citizens, including young people, old people and people with disabilities.

Access and safety

- Increase access to active spaces. Put playgrounds, sporting areas, trails, paths and parks within walking or wheeling distance. Provide well-maintained safe parks and play areas for children (such as playgrounds, wading pools, outdoor skating rinks, skateboard parks, sports fields and cycle lanes, tracks and paths). Provide free or subsidized access to swimming pools and other facilities to children and youth, older adults and people with disabilities.
- Improve accessibility to public transport and/or provide transport to recreation facilities for people with disabilities, older adults and families in disadvantaged circumstances.
- Increase efforts to involve people with disabilities and chronic illnesses (of all ages) in appropriate physical activity. This will require improvements in accessibility in the built and natural environment and a stronger role by health professionals and caregivers in long-term care facilities.
- Encourage cycling as a mode of transport for all ages by enforcing slower speed limits for cars on city streets, giving higher priority to cyclists in transport policies, building cycle lanes, tracks and paths, improving road design and offering cycling training to young people, old people and women in ethnic minority groups.

- Provide tailored physical activity programmes through the city recreation department, such as:
 - for older people: walking groups, community gardening, exercise classes in community centres, home-based programmes, intergenerational activities, tai chi in outdoor parks and aqua-fitness in local pools;
 - for children and young people: activities that stress fun, skill development, sociability and achieving one's personal best; and
 - for people with disabilities: walking and rolling groups using accessible trails and paths, adaptive equipment at parks and trails and paths, such as hand-cycles that are available for rental and programmes that encourage the inclusion of people with disabilities in existing activities instead of developing separate activities.

Policies and procedures

- Review policies, procedures and programmes related to urban planning and active living to ensure that they do not discriminate against different age groups and levels of ability. Designate a staff member or community liaison to address accessibility issues for priority groups.
- Enact policies and regulations to make active living spaces and facilities accessible to all. Highlight and promote health clubs that are accessible and meet the needs of older adults and people with disabilities.
- Enact mixed land-use development policies that combine residential, retail and commercial uses within a small geographical area. Require developers to provide sidewalks and appropriate lighting. Locate new housing for families, people with disabilities and older residents as well as long-term care facilities near shopping and services, transport routes, parks and recreation centers.
- Provide on- and off-leash walking areas for dog owners within walking distance of areas where older people, families and people with disabilities live.
- Market active living to older adults and people with disabilities. Work with the mass media to combat ageism and stereotypes about older adults, people with disabilities and active living.

Work in partnership

- Involve children, youth, older people and disability advocates and organizations in the planning, assessment and development stages of building or improving facilities or spaces that encourage active living.
- Enter into partnerships with community agencies, voluntary organizations, religious organizations and sport clubs to promote and enable active living for children and youth, older adults and people with disabilities.

SPOTLIGHT: SANDNES, NORWAY**Involving children in land-use planning**

The Sandnes Municipal Council has made systematic efforts to identify and promote the interests of children and young people in local planning work. The Children's Trail programme has enabled children to identify and register 1265 play areas, 550 short cuts, 130 reference areas for schools and 185 reference areas for nurseries. These registered areas have been entered on digital maps and air photo maps and are required to be used in all planning activities to safeguard important play areas.



6. Settings for physical activity

SPOTLIGHT: EUROPE

Health-promoting schools

The European Network of Health Promoting Schools (ENHPS) is supported by the Council of Europe, the European Commission and the WHO Regional Office for Europe. It seeks to integrate the policy and practice of the health-promoting school into the wider health and education sectors. It works at three levels: school, national and international. At the heart of the model is the young person, who is viewed as a whole individual within a dynamic environment. Thousands of schools in more than 40 WHO Member States have enthusiastically introduced this approach through membership in the ENHPS. The ENHPS *Network News* describes many innovative programmes to promote physical activity and healthy eating in the school environment and through relationships with parents and the community. For more information, please visit <http://www.euro.who.int/ENHPS>.

A review (41) concluded that creating or improving access to places for physical activity can result in a 25% increase in the percentage of people who exercise at least three times a week, especially when combined with the distribution of information about the benefits and opportunities for active living. In addition to changes in the broader built environment (see Chapter 3), these interventions are most likely to be effective in three key settings: schools, workplaces and health care settings. Local governments have varying degrees of authority in each of these settings. Sometimes they need to take a leadership role; in other settings their collaboration is critical to success.

Schools

From preschool to university, children and young people spend many hours in a school setting. This is also where they are likely to learn and practice many of the attitudes, values and skills related to active living that will last a lifetime.

There is strong evidence that school-based physical education is effective in increasing levels of physical activity and fitness (57). Unfortunately, physical education has been given reduced priority and curriculum time in the past decade (70), and students (especially girls) in intermediate schools have been shown to be less active during breaks at school (71). Many students are now driven or bussed to school instead of commuting on foot or on a bicycle. Lastly, in some cities, schools are now closed after hours for alleged safety and fiscal reasons. This means that children, youth and other community members do not have access to an important neighbourhood facility for physical activity, sport clubs and active recreation. Overall, these trends have led to a significant reduction in school-related physical activity.

Active commuting to and from school is important for increasing active living and burning excess calories because it happens at least twice a day on all school days. Providing active and safe routes to school has been particularly effective in many countries.

What can local governments do?

- Work with schools, the education system and parents to promote daily, high-quality physical education classes at all levels. Ensure that physical education classes are designed for all children and not just those who are athletic and help students develop a lifelong appreciation for active living.
- Support other school policies and programmes that enhance physical activity levels and fitness among children and youth. These include providing

space, equipment, encouragement and supervision during breaks, involving teachers in active play time and improving extracurricular sports, activities and clubs (72,73).

- Adopt standards for safe, active and enjoyable outdoor and indoor play on a daily basis in preschools, nurseries and day-care centres.
- Include planning for physical activity as part of broader programmes for health-promoting schools.
- Work with schools, the education system, parents, the police and local agencies to provide safe and active routes to school and to teach children road safety rules.
- Encourage parents, grandparents and caregivers to walk or cycle to school with young children. One innovative idea is the walking bus, in which adults

SPOTLIGHT: ROME, ITALY

The walking school bus

The walking school bus is a safe, fun and healthy way for children to travel to and from school. Children walk in a group, along a set route picking up additional “passengers” at specific “bus stops” along the way. Each walking bus has an adult “driver” in the front and at the rear. In Rome, the City Council (Lia Di Renzo, Councillor for the Promotional Politics for the Family and the Childhood) worked with school authorities and parents, local police, district representatives, road safety officers and city police to plan and implement the walking school bus. In 2005/2006, more than 50 schools (1300 children and 100 “bus” lines) were involved. In 2006/2007, the programme is being extended to all school districts in the city. The programme gives children the opportunity to be active on a daily basis, to socialize with other chil-

dren and to learn about road safety. It also improves the quality of the urban environment around schools by limiting car traffic and pollution due to excessive use of cars. The

walking school bus is now a feature in many cities and is seen as part of the broad international movement to encourage active and safe routes to school (74,75).



© City of Rome / Paola Samaritani

Walter Veltroni, Mayor of the City of Rome, with children at a bus stop for Scuolabus a piedi.

Neighbourhoods

Neighbourhoods are natural settings for active living. Neighbourhoods and residential areas differ from other organizational settings such as schools, health care facilities and workplaces. They are shaped by the built environment and the social context and are the arena for everyday life for all citizens: young and old, men and women, workers and students, artists and migrants. Most of the interventions described in this publication are relevant to and can be applied in each neighbourhood. Integrating the interventions at the neighbourhood level such as the construction of walking and cycling paths and creating playgrounds, green spaces and easily accessible local facilities can maximize people's opportunities for physically active living and improve their health and social capital.

pick up a number of children on a neighbourhood route and walks or cycles with them to school.

- Work with school authorities to ensure that school facilities are available for active recreation and sports after hours at no cost to residents and clubs.

Workplaces

Today, more and more jobs are sedentary: in 2002, half the respondents in a European Union survey reported little or no physical activity at work (55). More people commute to work by car than ever before.

Although there is some conflicting evidence about the effectiveness of specific workplace interventions, places of employment where most adults spend 7 or 8 hours per day offer great potential to enable physical activity, especially in the provision of exercise facilities and supportive policies that encourage walking and cycling to work (1). Workplaces also offer the opportunity to provide social support for active living by creating opportunities for work colleagues to be active together during breaks and after work hours.

A review (41) found that workplace programmes for physical activity often included other components such as health education, risk factor screening and referrals to additional services. Most participants in these "combined" programmes reported weight loss, decreases in body fat and improvements in cardiovascular health and other aspects of fitness. In addition, studies in workplaces found that the net benefits per person substantially exceeded the adjusted costs of creating or enhancing access to places for physical activity.

Employers may be especially influential in promoting cycling to and from work by reimbursing commuter cycling costs and providing showers and bicycle storage areas (76).

What can local governments do?

- Set an example in government workplaces by forming workplace active living committees that represent all levels of trade unions, professional associations and management; encouraging active commuting (such as by providing bicycle racks and storage) and discouraging car use (such as by not providing fringe benefits related to cars and parking); providing opportunities for physical activity at the workplace (such as fitness programmes, showers, changing rooms and supporting sport clubs and competitions between or within workplaces), or provide subsidies for employee use of local facilities if on-site facilities are not possible.
- Encourage other employers and businesses to adopt similar policies and practices and collaborate with them when an intervention requires the support or expertise of local government services. Publicly recognize employ-

ers and businesses that provide opportunities for physical activity for their employees, retirees and families.

- Provide and promote active safe routes to work that encourage walking, cycling and the use of efficient rapid transport systems in combination with these active modes of transport.
- Design urban environments that locate workplaces and businesses in mixed neighbourhoods or close to public transport stations.
- Create a workplace and active living focus in the public health department to bring together small and large businesses in the city that express an interest in creating or improving access to physical activity for their workers. When appropriate, link businesses up with local recreation and physical activity services and programmes.



Every year some 500 employees of the Metropolitan Municipality of Bursa, Turkey enjoy friendly competitions in basketball, volleyball and football tournaments organized by their employer. Employees say this motivates them to be more active, strengthens friendships and increases employee morale.

SPOTLIGHT: EUROPE

Health-promoting hospitals

The aim of the Health Promoting Hospitals project is to improve the quality of care by supporting the provision of health promotion, disease prevention and rehabilitation activities in hospitals. The project also addresses the health of staff. Promoting health-enhancing physical activity is a priority, especially for hospital personnel. For more information, please visit the WHO Collaborating Centre for Health Promotion in Hospitals and Health Care at <http://www.hph-hc.cc>.

SPOTLIGHT: EUROPE**Active travel to and from health care facilities**

Sustrans, a national charitable group promoting active transport in the United Kingdom, has produced a guide for health care organizations to promote healthy travel for staff and visitors. The guide says to lay out your travel guidance in the healthiest order – start with walking and cycling, then public transport (because there is usually a walk at each end of the journey) and finally car travel. Put information about driving and parking last, so that the healthier ways to travel are most prominent. As a rule of thumb, a distance of about three kilometres is walkable for many people and up to about eight kilometres is reasonable to cycle. They also encourage choosing meeting rooms and venues according to healthy travel as well as access to people with disabilities (77).

Health care settings

Health care systems have a key role in addressing physical activity, obesity and healthy eating. Community health centres, hospitals and long-term care facilities have an obligation to set an example by creating and improving opportunities for participation in physical activity. Active living and appropriate exercise are key to rehabilitation and regaining health and vigour following an illness or injury and for maintaining independence in older age. The health professionals who work in these sites are credible spokespeople for the value and benefits of regular physical activity. Primary care practitioners may be ideally placed to provide brief interventions that motivate people to increase physical activity (78).

What can local governments do?

- Collaborate with and encourage health and long-term care facilities to increase opportunities for active living and appropriate physical activity for both their employees and patients or residents.
- Encourage health professionals in primary care settings (such as nurses, paediatricians and physical therapists) to promote active living and to motivate inactive people to begin appropriate moderate exercise.
- Include planning for physical activity as part of broader programmes for health-promoting hospitals.



© City of Milan / General Planning Department

The green belt around Milan links several existing parks and open zones between them. According to the map, the green belt will become the core of a more extensive system of green spaces that will link to existing public plazas and squares of Metropolitan Milan: park land 60 km in circumference for recreational activities, playing, walking and cycling.

7. Designing to promote healthy weight

What is known

Overweight and obesity are caused by taking in more energy as food than is expended through physical activity. Nevertheless, there are complex interactions between genetic, environmental and behavioural factors beyond this apparently simple relationship. Evidence suggests that the built environment – where people live, work, learn and play – influences both the simple and complex factors involved in nutrition and physical activity (79).

Low-income neighbourhoods have fewer healthy, affordable retail food options, with those present predominantly offering unhealthy foods. In addition, the nearest sources of healthy foods generally require transport that is inconvenient or unavailable to the most disadvantaged residents (12). The widespread availability of high-calorie foods is complemented by heavy marketing pressure, such as offering toys and entertainment to children. These factors combined with pressure on families to minimize food costs and preparation time results in the frequent consumption of convenience foods high in fat and calories.

The problem is worsened for children and young people when schools cut physical education and sports programmes and allow high-fat fast-foods and high-sugar snacks and drinks to be part of school lunch programmes or vending machines. On the positive side, preliminary research indicates that bringing fresh produce into schools can lead to greater consumption of fruit and vegetables (80).

Although researchers cannot yet prove that changing in the built environment will inherently reduce rates of obesity, increasing overall levels of physical activity will help reverse the growing trend toward increased overweight and obesity among children and youth. In fact, changes in the built and social environments that enable children and youth to be active may help to reduce overweight in the long term, especially if combined with changes in the kinds and locations of food outlets and school nutrition policies (81).

What can local governments do?

In addition to increasing opportunities for physical activity in the built and social environments, local governments can improve access to healthy food by supporting a variety of policies in areas such as agriculture, transport, land use, economic development and financing strategies.

- Enact healthy land-use policies. Create land-use policies that preserve farmland and allow the creation of community gardens on vacant public and private property. Invite kindergartens, day-care centres and schools to grow community gardens and “green” their playgrounds.
- Support the creation of small markets offering healthy foods and produce. Limit the number of fast-food restaurants per square kilometre and prohibit their development near schools.
- Support farmers’ markets, roadside markets and farm-to-institution programmes (such as farm to schools and farm to hospitals). Create economic stimulus programmes and public-private partnerships to promote the development of farmers’ markets and supermarkets in low-income neighbourhoods.

SPOTLIGHT: BRNO, CZECH REPUBLIC

Reducing obesity among children

In Brno, Czech Republic, reducing obesity among children is a family affair. Under the leadership of the Counselling Centre for Healthy Lifestyles at the Masaryk Memorial Cancer Institute, overweight children and their parents attend exercise sessions, lessons on nutrition and discussions on other circumstances influencing the child’s weight within the context of the whole family. The City of Brno also provides financial support to a summer camp for obese children. The campers enjoy healthy meals and lots of physical activity and learn how to adopt healthy eating and exercise habits.



© Brno / Iva Hrnčířiková, Masaryk Memorial Cancer Institute

- Develop transport policies ensuring that urban bus routes conveniently connect passengers with supermarkets and farmers' markets and create economic incentives for markets to provide free or low-cost transport.
- Implement school nutrition policies that replace junk food with healthier options in both vending machines and school meals. Involve children in preparing food and running canteens with healthy, locally grown food.
- Support a ban on marketing unhealthy foods and drinks in schools and other areas where children gather.
- Offer healthy food and exercise breaks at all city-sponsored events and meetings.
- Involve nutritionists and food workers in city planning to increase the opportunities for physical activity and healthy eating in the built and social environments.
- Form partnerships with the food industry and food producers when appropriate.

SPOTLIGHT: STIRLING, SCOTLAND

In Stirling, Scotland, a unique partnership of city departments and many community groups provides a range of activities for children and young people including free swimming, mid-night football, twilight basketball and music and dance.



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Rowers in Copenhagen

8. Putting it all together

SPOTLIGHT: COPENHAGEN, DENMARK

Copenhagen on the Move

Copenhagen on the Move is a multifaceted long-term programme designed to increase citizens' participation in physical activity. It uses a three-pronged strategy to increase knowledge (campaigns, information and instruction for citizens and professional staff groups); opportunities (such as policies to increase physical activity in the built environment and to promote active living in workplaces, child-care centres and schools); and action (addressing personal motivation for choosing a physically active lifestyle). A cross-sectoral steering committee ensures the coordination of efforts. The programme builds on knowledge and lessons learned from previous work and on other planning efforts related to the built environment of the city (82).

Intersectoral action

Healthy urban planning – including efforts to enable and encourage active living – involves interdisciplinary, interagency and intersectoral collaboration: a shared recognition of the problems and a necessity for synergy to tackle them effectively and comprehensively. Key players include a range of public sector departments (such as housing, transport, planning, social services, public health and education) as well as the private and voluntary sectors.

Urban planners play an essential role in planning, designing and regulating the environments in which people live. Planners clearly need to integrate health and active living considerations fully into their work. Similarly, transport officials can provide a balanced transport system that enables residents to walk or cycle to shops, school and work.

There are numerous stakeholders in civil society and the voluntary sector, including organizations working in recreation, sports, nature, the environment, education and health. Children, adolescents, parents and other family members have a keen interest in creating and maintaining safe spaces and programmes



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Friday-night skaters in Copenhagen

that encourage physical activity and active living. These groups need to be represented in the decision-making process and involved in implementing, monitoring and evaluating interventions.

Citizen participation is a central tenet of healthy, active cities. Engaging in dialogue and sharing information about community design and opportunities for physical activity gives government officials access to the experience, knowledge, opinions and expertise within the community as well as opportunities to educate the public about issues, priorities and constraints.

SPOTLIGHT: TURKU, FINLAND



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Motion 2000

In Turku, Finland, the Motion 2000 project demonstrates how a comprehensive approach can increase active living among citizens of all ages, including those who are sedentary. The strategy, which has included a wide range of communication activities, services, counselling and the involvement of city planners in making changes in the built environment, took a step-by-step approach. It encouraged people to enjoy a range of activities. The project was coordinated by the Sports Office, which collaborated with voluntary organizations and other city departments. Between 1993 and 2004, the percentage of adult city residents active enough to maintain health (three times per week, slightly sweating) increased from 28% to 42%.

A comprehensive approach

The ideas in this publication can be implemented throughout Europe; however, each city needs to decide on priorities and how best to implement specific actions. The key ingredients are leadership, partnership, being systematic and strategic and taking advantage of opportunities as they arise. There are many innovative initiatives for physical activity in European cities. The challenge for local leaders who take the concept of a healthy active city to heart is to invest in developing a comprehensive approach. It is prudent to take advantage of small opportunities to start and to support active living projects in neighbourhoods and other settings where there is interest and resources. However, the overall goal should be to adopt a comprehensive approach by developing a plan that addresses all the factors that influence participation in physical activity related to the individual and the social and physical environments, with a special emphasis on key settings and the needs of vulnerable groups.

This approach is consistent with and inspired by the WHO strategy for health for all and more specifically the Healthy Cities concept, which seeks to put health high on the social and political agenda of cities through a process of political commitment, institutional changes, partnership-based planning and participatory governance for health development. By definition, a healthy city should be an active city.

Each city needs to decide who will coordinate the implementation of the plan. In some cases this responsibility is assigned to the department responsible for recreation and sports, although other departments or partnerships including nongovernmental organizations can assume the coordinating role. Successful implementation of a comprehensive approach to physical activity and active living requires four preconditions for change:

- explicit political commitment at the highest level where health, equity and sustainable development are core values in the city policies and vision;
- a shared vision, understanding and commitment to a comprehensive and systematic approach for active living for all citizens;
- organizational structures and processes to coordinate, manage and support change and to facilitate intersectoral action and active citizen involvement; and
- formal and informal opportunities for partnership-building and networking with statutory and non-statutory bodies and community groups.

Previous chapters identified a wide range of aspects and determinants that influence the physical activity patterns of individual people and communities. A comprehensive approach does not imply that all of these have the same weight and relevance for all cities. What is considered a challenge in one place may be taken for granted in another place. This applies to social and personal

issues as well as to building and designing practices. There can be many recipes for change. What matters is recognizing the importance of and scrutinizing the many local influences on physical activity behaviour.

In old cities with limited space, some might argue that increasing green spaces or building walking paths and cycle lanes, tracks and paths may be unrealistic. This may be partly true and may divert attention to promoting physical activity in other settings. However, European experience has also shown that political will, vision and commitment for promoting active living enables innovation even in the most constraint built environments. The goal is to create supportive environments for health: environments and neighbourhoods that are conducive to citizens' engagement in physical activity and active living.

What can local governments do?

- Show leadership. Provide role models and set an example. Champion walking, cycling, active lifestyles and community designs that support these activities.
- Foster collaboration within local government. Provide forums for city departments (such as transport, health, public safety, parks and recreation and education) to discuss the development of an integrated active living strategy. Encourage public health and urban planners to work closely together.
- Partner with voluntary organizations, professionals and community organizations. Establish a mechanism that will give health professionals the opportunity to provide input on planning and transport plans.
- Partner with the private sector. Work with businesses and chambers of commerce to improve marketing, outside maintenance and safety as ways to encourage downtown economic growth and active living. Encourage employers to sponsor active living programmes for their employees. Sports clubs, fitness centres, equipment manufacturers and retailers can be enthusiastic partners for active living campaigns and promotions.
- Share information. Provide a mechanism for sharing data on active living, for example on the health costs of inactivity and pedestrian travel and safety patterns, across government departments and with the nongovernmental private sector.
- Encourage public participation. Engage the nongovernmental, private and public sectors as well as citizens of all ages in planning and implementing initiatives to encourage active living and physical activity.
- Implement a communication strategy that builds awareness about the benefits of physical activity and active transport, how to overcome barriers to being active and how to get involved in active living in one's neighbourhood, city and the surrounding areas.
- Apply a step-by-step approach. Stage 1 could include efforts to build commitment, create a strategic vision, profile the community, consult with residents



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Mogens Lønborg, Mayor for Health, City of Copenhagen, keeps fit by running regularly. Here his son, Andreas (left) is accompanying him.

and stakeholders and set goals and objectives. Stage 2 involves preparing specific plans for increasing opportunities for physical activity in the built and social environments. Stage 3 involves implementation, evaluation and sharing your results.

Conclusion

Creating healthy, active cities is becoming an accepted and admired practice that is supported by residents, businesses and professionals in a variety of disciplines. Some of these efforts stem from a desire to support economic development and social cohesion; others aim to decrease environmental degradation or improve urban transport. Regardless of the rationale, policies and programmes that increase opportunities for physical activity and active living positively affect health and the quality of life in a city.

The problems of diminished physical activity and rising obesity need to be addressed urgently, and cities have an important part to play. To make health policies more robust, governments also need to support further research that quantifies the causal links between physical activity, health and changes in the built and social environments as well as evaluations of local policies and programmes that address these issues.

Numerous resources can help (Annex 2). *A healthy city is an active city (83)* provides a comprehensive framework for action and suggests a set of practical strategies. When combined with vision and commitment, city leaders and local officials can address the current concerns associated with sedentary lifestyles and improve the vitality and health of their cities and citizens.



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Seixal Bay: a place to promote a healthy lifestyle

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Annex 1. Contacts for further information on spotlights

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Annex 2. Key sources for further reading

Healthy urban planning

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People's participation in physical activity is influenced by the built, natural and social environments in which people live as well as by personal factors such as sex, age, ability, time and motivation. The way people organize cities, design the urban environment and provide access to the natural environment can be an encouragement or a barrier to physical activity and active living. Other barriers exist in the social environments within which people work, learn, play and live.

Physical activity is an essential component of any strategy that aims to address the problems of sedentary living and obesity among children and adults. Active living contributes to individual physical and mental health but also to social cohesion and community well-being. Opportunities for being physically active are not limited to sports and organized recreation; opportunities exist everywhere – where people live and work, in neighbourhoods and in educational and health establishments.

The Healthy Cities and urban governance programme of the WHO Regional Office for Europe has focused on how local governments can implement healthy urban planning to generate environments that promote opportunities for physical activity and active living.

This publication presents the best available evidence on physical activity in the urban environment and makes suggestions for policy and practice based on that evidence. Mayors and other elected city officials can use this information to address the needs and contributions of all citizens in different settings of everyday life with the aims of ensuring equitable and comprehensive efforts to promote physical activity and active living.

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