BENEFITS OF ACCESSIBLE & INCLUSIVE SPORTS FACILITIES AND SERVICES

Sustainable and inclusive access to sports practice (SIASP –project)

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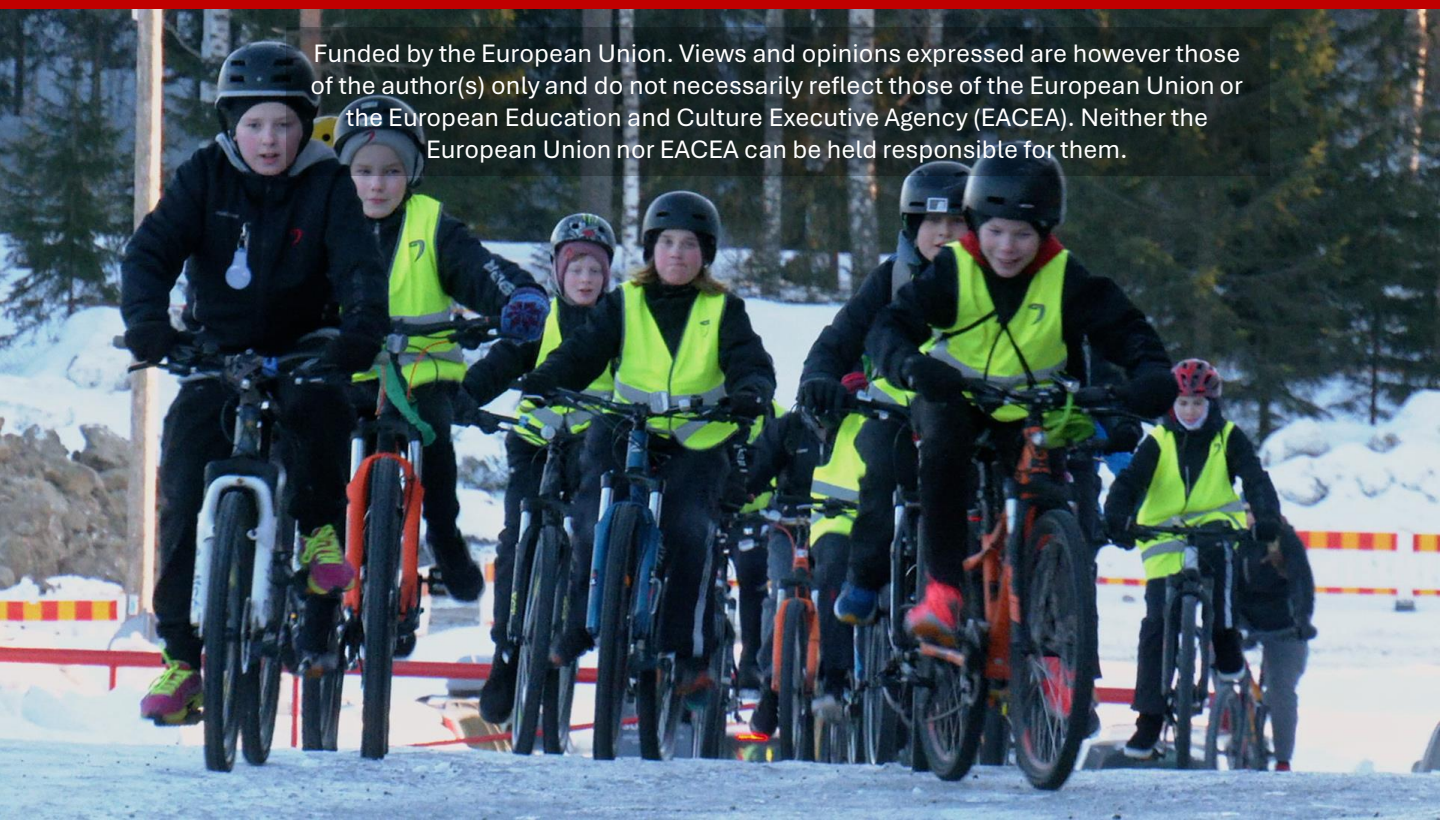

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Front page photos by: Timo Perälä and Jyp –Juniorit ry. Appearance of minors in photos has been secured by the photographer and permitted by minor's guardians.

Photo: Hämeen Sanomat

FOREWORD

Our world is currently suffering from many different crises. Climate change, loss of biodiversity and conflicts in different parts of the world fill our news feed day after day. One of the global crises that gets less screen time is the pandemic of immobility. Fewer and fewer people on earth are enough physically active for their own physical and mental well-being.

Changes in living environments and people's everyday life have increased sedentary lifestyle and reduced everyday physical activity, social contacts and contacts with the nature. We try to compensate for these deficits through performing and buying hobbies and sports services for ourselves and for our children. The equation is unsustainable from both resource wise and sustainable development perspectives. We build more sports facilities, but we often do not address the origins of inactivity. The main reason can be many times found from the adult's mirror.

The SIAPS (sustainable and inclusive access to sports practices) project aims to provide more comprehensive view to the travel patterns of adolescents and children outside of school trips. This SIASP project's first report highlights research results, good practices and experiences of solutions for accessible and equal leisure time activity venues and activity-supportive build-up environments. The goal of the SIASP project and this report is to spread awareness of good solutions and to inspire those responsible for the planning and implementation of urban living environments to make sustainable and holistic solutions that improve the well-being of residents in their own cities.

The report has been written in co-operation of three organizations; Winter Cycling Federation, Austria Active and Cyklokoalícia. Mr. Timo Perälä from the Winter Cycling Federation has been the author of this report.

In Oulu, Finland, 3rd of December 2024

Timo Perälä, President
Winter Cycling Federation

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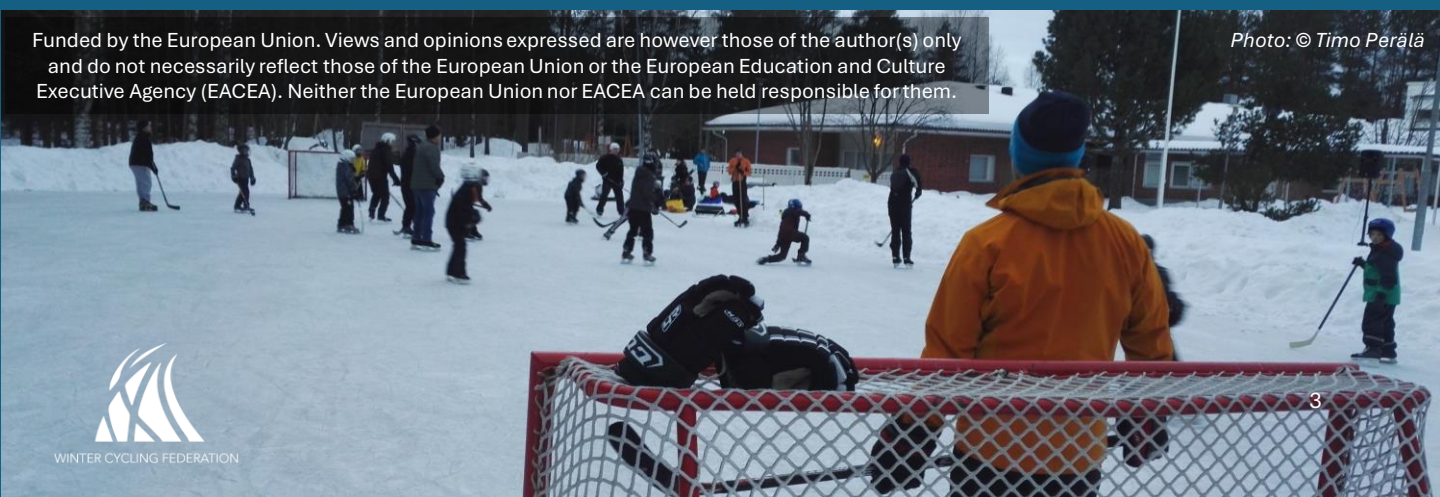

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WINTER CYCLING FEDERATION

1. SUMMARY

All children and adolescents need to play. It is a biological, psychological and social necessity and is fundamental to the healthy development and well-being of individuals and communities. Children's opportunities for independent outdoor play have reduced over time due to many factors. Increased screen time, fear of crime and traffic, homework and after school activities with intensive car-parenting has been essential factors to gradually decrease physical and mental well-being of children and adolescents.

After school leisure time makes half of the day for children and adolescents. Still, active travel promotion is heavily focused on active school trips and safe routes to school. The other half of active travel possibilities and connections are widely forgotten from the urban planning processes. In fact, regional traffic surveys from all over the world show that leisure time activity trips are equal, or even a more significant travel group than school trips. Research results also show that active travel to school is poorly associated with active travel to leisure time activities.

Basically, we adults have forgotten and ruined possibilities for children's independent mobility and outdoor play. The build urban environment and sport service structure favors the use of private car. Leisure time activities are often scattered around the city increasing the need for transportation. In addition, participation fees have increased making leisure time activities exclusive. As the result, we have created in many EU-countries a 2-tiered system, where the first group is characterized in many ways by a highly specialized cohort that requires underwriting of significant economic costs and that also leads to overuse injury and burnout. This is juxtaposed with the second group, which may be less specialized, cannot afford the costs to play, has fewer opportunities to participate in physical activity, and may be at risk for long-term sedentary-lifestyle diseases. [25]

Physical inactivity of the population costs us a lot of money every year. Successful cities are the ones that are being planned especially for young girls to be active and independent in their own near-by, safe urban environment. As a conclusion this report highlights following:

1) Organized & competitive sports are not the solution for the inactivity crisis – in fact, it is part of the problem. We need to increase knowledge at all levels of following topics.
    - Acknowledging the current sport and leisure time activity systems deflects and the benefits of more inclusive sports and recreational service models such as sport sampling and community sport activities and initiatives.
2) Adoption of new priorities in urban planning
    - We must plan cities for children, independent outdoor play and safe inclusive active travel. More education, development of impact data management and increasing kid's participatory in different phases of the planning process are needed.
3) A systematic change requires emphasizing parental responsibility, mutual understandding and agreement of the adults of a community.
    - Truly active lifestyle parenting model, family and peers support are the most cost-effective and permanent solution for the current inactivity problem.
4) From early specialization to independent outdoor play and community sport sampling
    - These values need to be in the core of funding for national, sports federation, club and city level policies and procedures.
    - Urban gamification needs to be utilized to reach the inactive ones. How to make outdoor independent play "cool and inspiring" for all? If you can't beat them, join them!
5) Mobility management of leisure time activities
    - Identifying and tackling systematically local main obstacles for active travel to leisure time activities with mobility management (safe access for all, optimizing services and distances, timetables, equipment logistics, etc.) together with local stakeholders.

2. INTRODUCTION

Only **27%-33%** of children are estimated to meet recommended physical activity targets.

2.1. Global childhood inactivity crisis

In late 2022 Active Healthy Kids Global Alliance published a report "Global Matrix 4.0 Physical Activity Report Card Grades for Children and Adolescents: Results and Analyses from 57 Countries" that revealed that modern lifestyles – increases in digital screen time, the growing urbanization of communities, and the rise in automation of previously manual tasks – are contributing to a pervasive yet unequally distributed public health problem that must be recognized as a global priority. [1]

According to the Matrix 4.0 report, only 27% - 33% of children and adolescents are estimated to meet the recommended amount of physical activity globally (grade D). Twenty one of 57 countries involved in the study were from Europe. The Global Matrix 4.0 consisted of 10 different physical activity indicators and the results are presented in the figure 1.

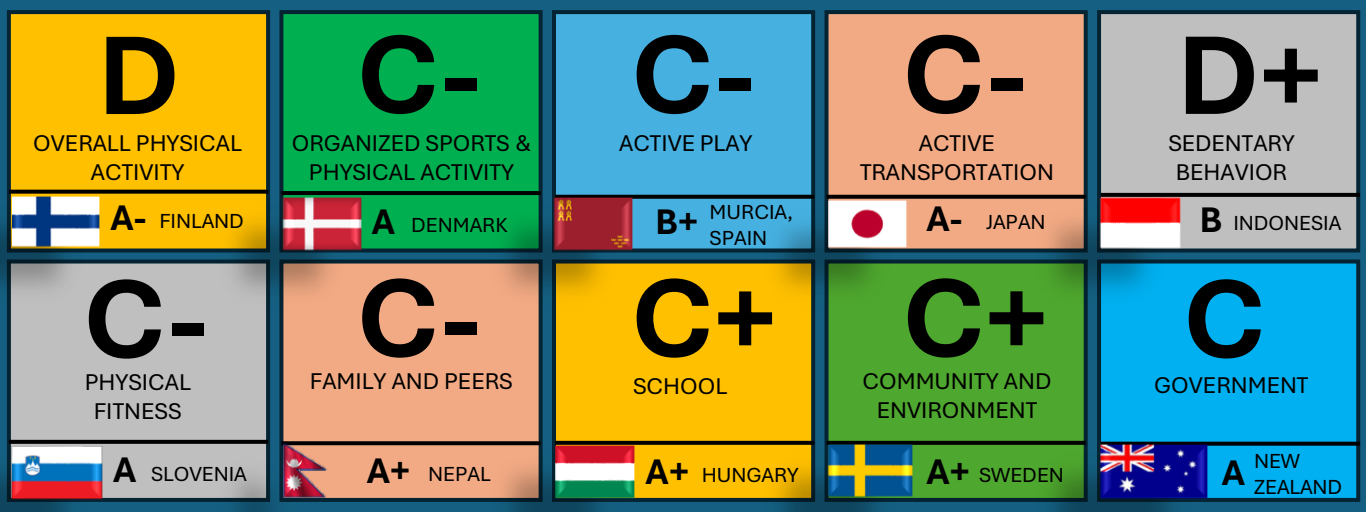


Figure 1. *Global Matrix 4.0 physical activity indicators, overall grades and best countries / regions in each indicator category (Austria not involved in the study)*

Table 1. *Global Matrix 4.0 Grading Rubric*

Grade	Interpretation	Grade	Interpretation
A+	94 - 100 %	C	47 – 53 %
A	87 - 93 %	C-	40 – 46 %
A-	80 - 86 %	D+	34 – 39 %
B+	74 – 79 %	D	27 – 33 %
B	67 – 73 %	D-	20 – 26 %
B-	60 – 66 %	F	< 20 %
C+	54 – 59 %	INC	Insufficient data

Global Matrix 4.0 confirms there are challenges for children, communities and cultures around the world. These challenges are inequitable by gender, ability, age, ethnicity, Human Development Index, and geo-cultural region and were worsened by the COVID-19 pandemic and related restrictions.

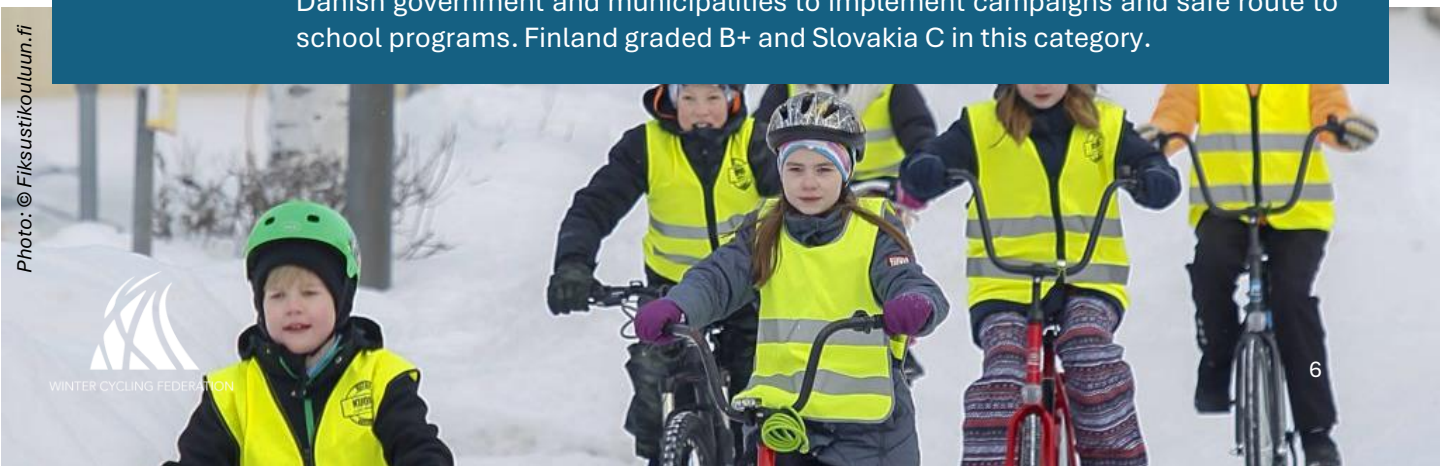
Active Healthy Kids Global Alliance identified four most important priorities for action as presented in the figure 2. The priority action no:2 corresponds precisely to the targets and content of this report. The actions and targets of the third priority group also go well along with the goals of SIASP -project goals.

Figure 2. *The most important priorities of actions for increasing physical activity of children according to Active Healthy Kids Global Alliance*

Among the ten indicators of Global Matrix 4.0, "active transportation", "active play" and "community and environment" are particularly interesting from the point of view of the goals of SIASP -project. Out of the three partner countries of this report, Austria did not participate in Global Matrix 4.0 and therefore the data is not available for comparison.

Active transportation involves nonmotorized travel modes such as walking, cycling, or riding a human-powered scooter. The benefits of active transportation include not only increases in physical activity (PA) at the individual level but also improvements in traffic safety, transportation mode share, air pollution, and reductions in carbon emissions on a larger scale, potentially contributing to multiple United Nation Sustainable Development Goals. [2,3,4]

Grades for this indicator ranged from F (UAE) to A– (Denmark and Japan). On average, this indicator was graded C–, corresponding to succeeding with about 40% to 46% of children and adolescents. High density of school network is one significant factor for Japan and Denmark high grades besides the persistent effort by the Danish government and municipalities to implement campaigns and safe route to school programs. Finland graded B+ and Slovakia C in this category.



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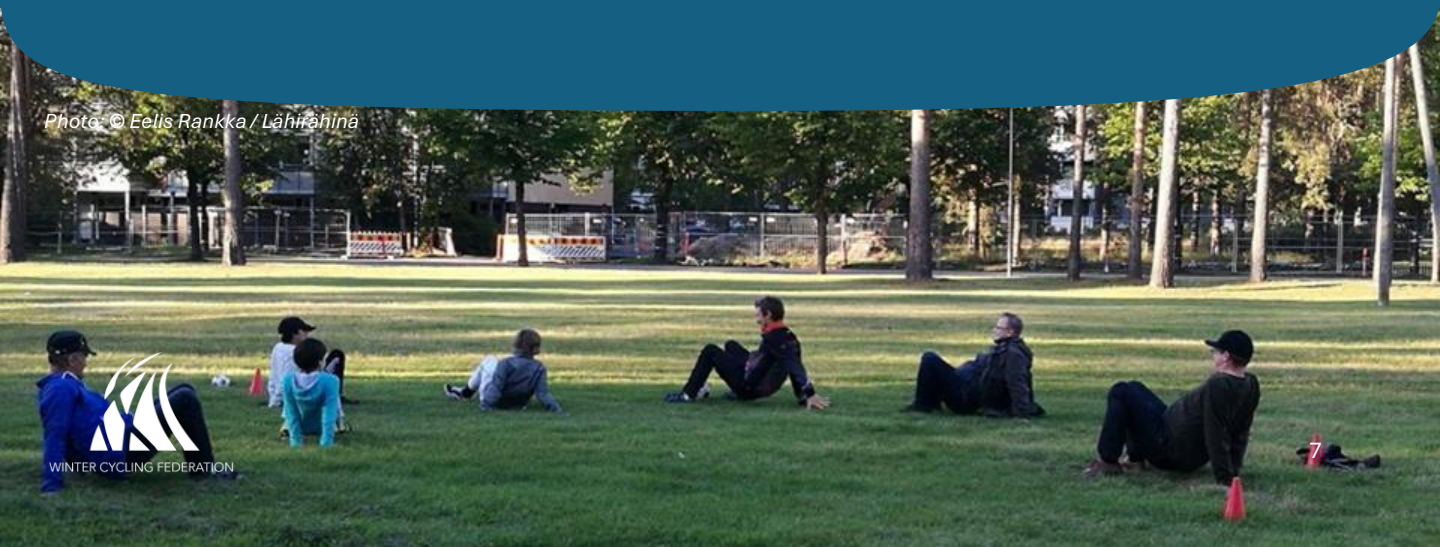
Active play is a "form of play that involves PA of any intensity and is often related to outdoor activities. Play is identified as an essential component of child development and helps with the refinement of physical abilities and fosters social development, self-concept, and creativity. [5,6]

On average, this indicator was graded C−, corresponding to 40% to 46% of children and adolescents meeting the criteria, but this average varied when stratified by HDI classification. The findings suggest that there are inequities in terms of barriers and opportunities for active play in children and adolescents across the world. Differences between countries and regions might be partly explained by different cultural values toward active play and sedentary behavior, related to different climate, and affected by the length of the day.

Both Finland and Slovakia graded C- in this category. Highest out of EU countries graded Lithuania (B).

Community and environment. Characteristics of the environment are recognized as important determinants of the PA of children and adolescents. Better accessibility to existing and new infrastructure for walking, cycling, and public transportation, as well as population density, public transportation density, the connectivity of streets, access and availability of public open spaces, and sports facilities are associated with increased overall and transportation related physical activity. However, relevant environmental correlates of PA may be behavior and context specific. [7,8,9]

Grades for the Community and Environment indicator ranged from D− (Botswana and China) to A+ (Slovenia, Sweden, and Singapore) with an average grade of C+. There was a distinct gap between the average grade for the very high HDI (Human Development Index) countries (B−) and the average grade for the low, medium, and high HDI countries (D+). Finland graded B and Slovakia B- in this category.



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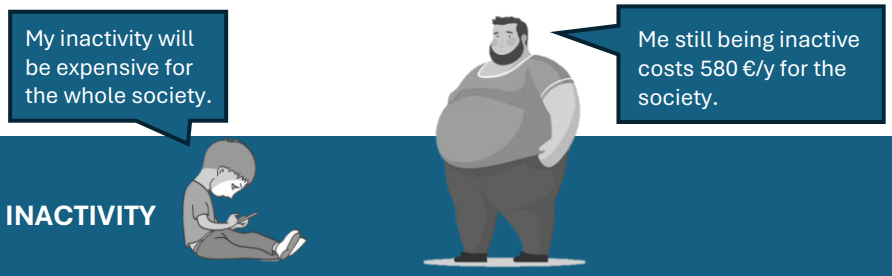


ECONOMICAL IMPACT OF INACTIVITY

According to WHO over 500 million people will develop heart disease, obesity, diabetes or other noncommunicable diseases (NCDs) attributable to physical inactivity, between 2020 and 2030, costing 25 billion euros annually. Both sedentary behavior and inadequate levels of physical activity have negative impacts on health systems, the environment, economic development, community and individual well-being and quality of life. [10] In Finland, the estimated annual costs of physical inactivity and sedentary lifestyle have been estimated to be 580 euros per person. [12]

Children's and adolescents' physical inactivity is associated with reduced cognitive performance, physical and mental well-being. [11] Too often, social exclusion begins with physical exclusion. Without changing the existing way of life that supports physical inactivity of children and adolescents, we will have a global labor shortage on our hands in near future. Sickness absences are already soaring with mental health issues increasingly being cited as the reason. This tendency is costing dearly for companies and for the society. For example, physically inactive employees' annual productivity costs are 480 € higher than physically active employees' costs. [13]

2.2. Travels to extra curriculum activities

Often in children's and adolescents' active travel promotion, the focus is almost exclusively on school trips. Still, school and study trips typically make up only a part of children's and adolescents' daily travels. The driving for leisure time activities is a significant contributor to overall kilometers driven and time spent driving . According to the travel surveys, trips to leisure time activities are estimated to be from 10 % even up to 24 % of all the trips, depending on a country and a city. [14,24] Especially in families with younger children, transportation to sports and other hobbies is a time-consuming almost everyday activity. On a weekly basis, one family can easily spend several hours and hundreds of kilometers driving between different sport facilities. [15]

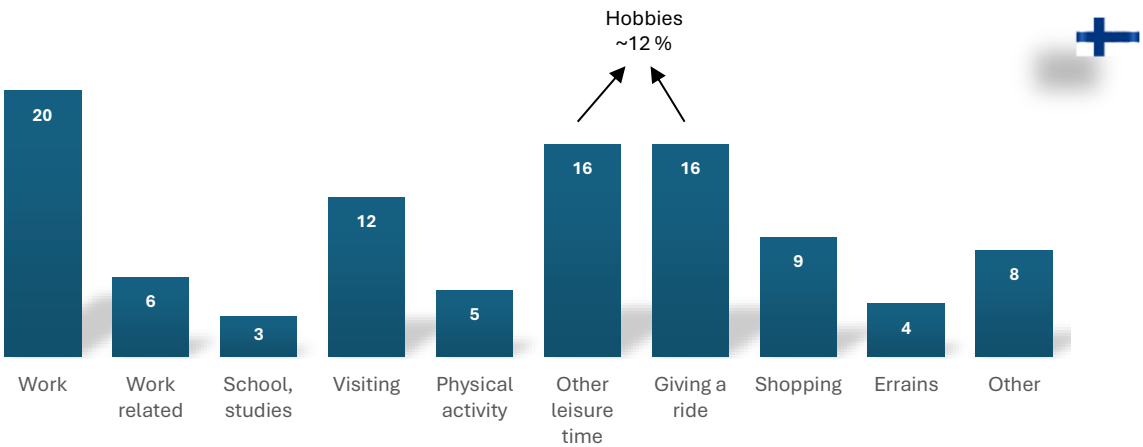


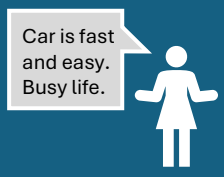
Figure 3. *Travel group shares (%) of all accumulated trips in Finland*

As automobilization and organized sports structure development has been evolving, the share of active travel modes to extra curriculum activities has decreased dramatically over the last few decades. [54] There are many reasons for the low share of active travel modes related to the urban environment and the existing transport system. Early specialization in different sports and the resulting demand for better training conditions has increased the concentration of activities in training facilities, the number of training sessions and the length of distances to these activities.

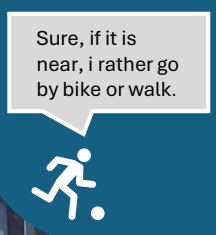
65 %

A study conducted in Finland's capital region in 2016 found that extra curriculum activity trips of more than 1 kilometer are already most typically made by private car. Distances of less than 1 kilometer were still mostly traveled by foot. In the capital region, the most common mode on transportation for children's and adolescents' extra curriculum activity trips was a private car (65%). [16]

In Jyväskylä, Finland in 2021, a study investigated how children playing hockey go to their practice sessions. The same children traveled to school mainly by bike or on foot, but even short trips to hockey practices were taken in a car, either alone or in carpools with other children. Factors explaining the dependence on personal cars for practice trips were the need to transport hockey equipment, busy everyday life and the speed of driving, challenging training times and the length of the trip. In addition, the parents' own mobility patterns were very focused on cars, and the parents combined with the practice of carpooling meanings emphasizing the safety and well-being of children, as well as other everyday errands. [17]



A study made in Tampere, Finland investigated the training trips of children playing football. The competitive teams' trainings trips were mainly carried out by car, but the suburban team's training trips were carried mostly out by bicycle (64 %). The most significant reason for the popularity of private car rides for competitive team players was the long distances. In Finland's capital region, the length of children's and adolescents' leisure time activity trips (8,2 km) is considerably longer than, for example, school trips (4,5 km). Other reasons for not to walk or bike to trainings were the ease of using the car and the lower time competitiveness of active travel modes. [18]



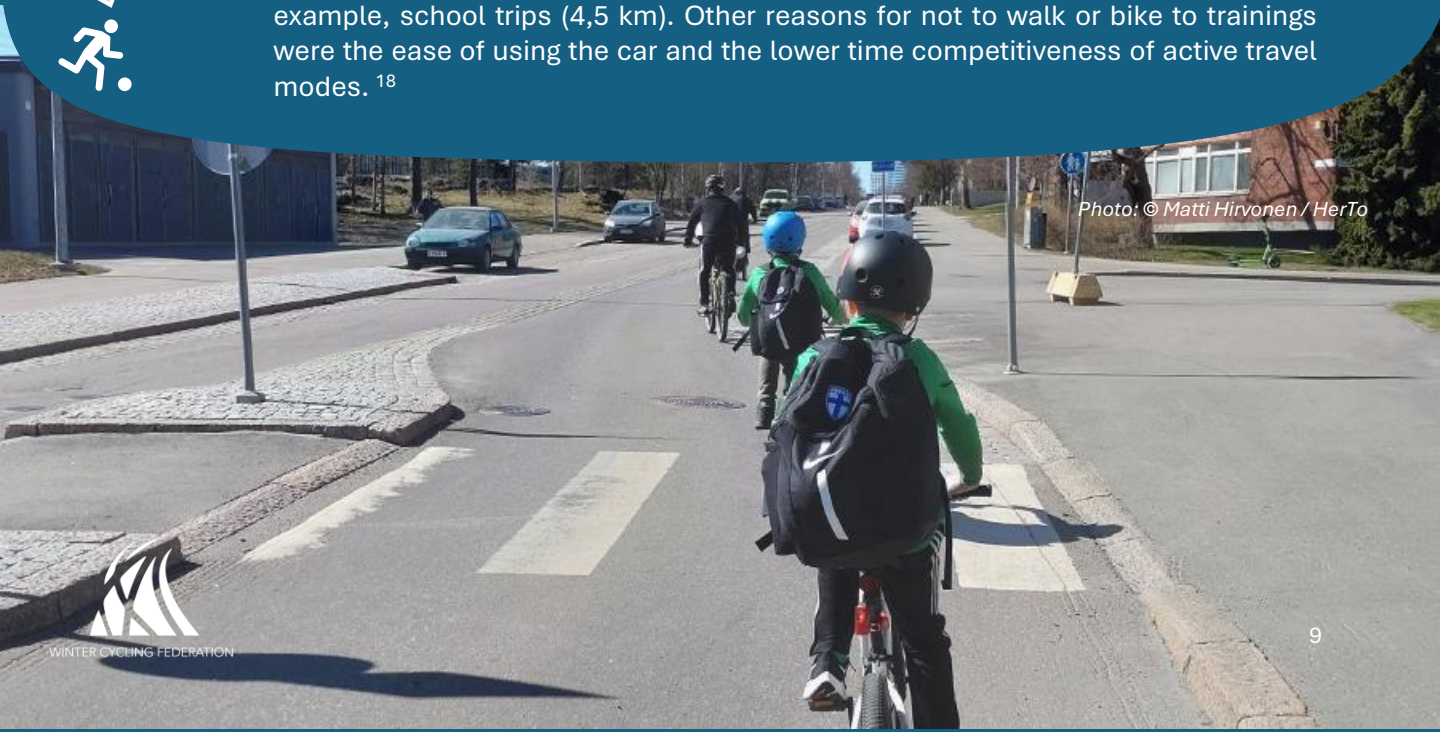


Photo: © Matti Hirvonen / HerTo

Why active travel to leisure time activities is important? Research results show that going to leisure time activities independently using muscle power or having possibilities to be physically active close by and in a safe environment increases the amount of physical activity of children and adolescents. [16-20] In fact, walking or biking to non-school destinations has been linked to higher levels of physical activity. [20-21] We also know from national studies that although children and adolescents are more involved in organized sports club activities than ever, an increasingly large proportion of children and adolescents still do not meet the recommended amount of physical activity. [22]

In physical activity and sports program policies, more and more emphasis has recently been placed on the importance of walkability, safety and activating elements of the urban build-up areas. The goals set for the promotion of physical activity of children and adolescents will not be achieved by building more concentrated sports facilities. According to a study of children's and young people's exercise behavior in Finland, the most popular places to be physically active are pedestrian and cycling paths, your own or a friend's yard, and genuine nature. Sports facilities only come fourth on the list. [21] The importance of green areas and active built living environments for the well-being of children and adolescents is much greater than what can ever be achieved by building sports facilities.

"The importance of green areas and activating living environments for the well-being of children and young people is much greater than what can ever be achieved by building sports facilities."

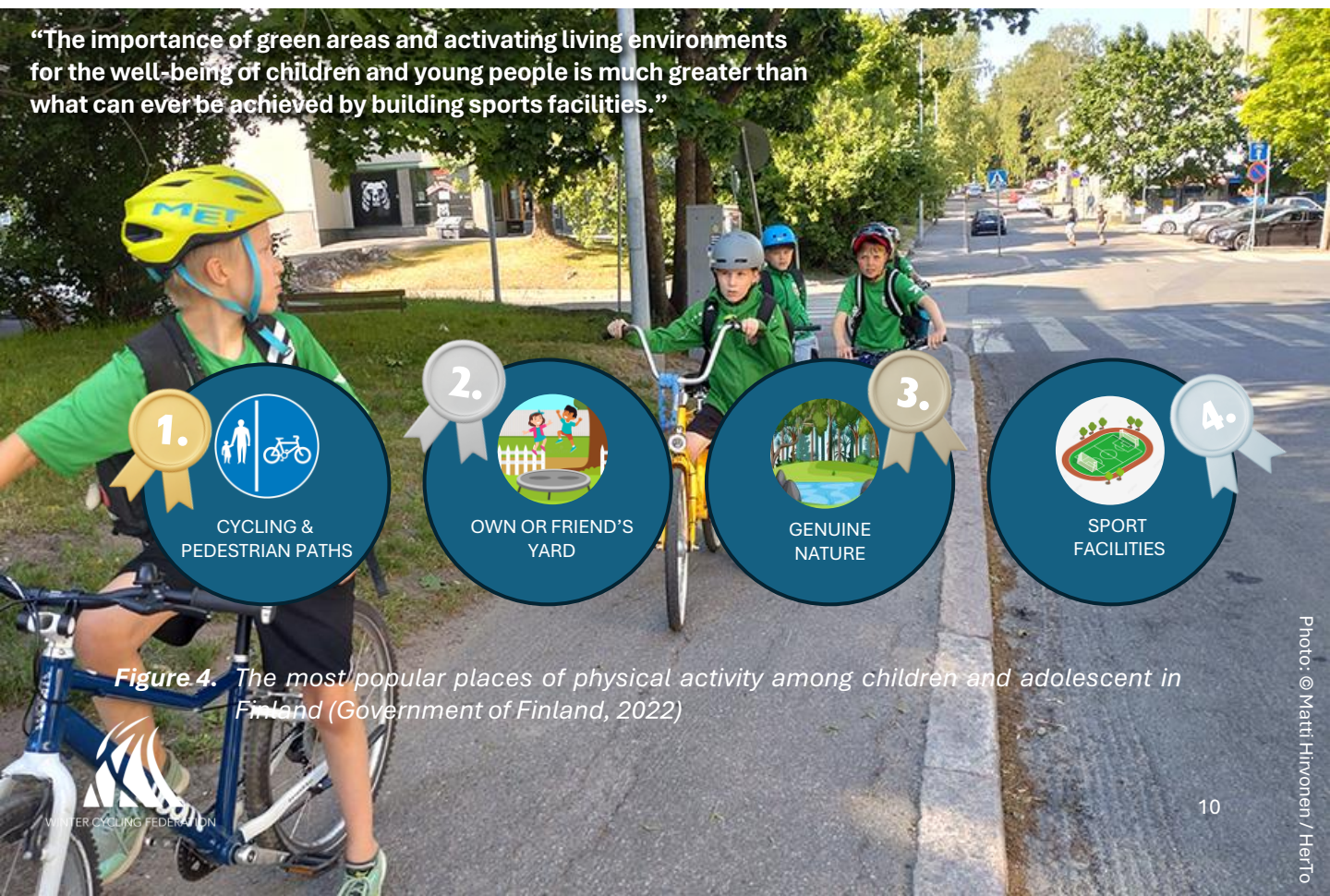


Figure 4. *The most popular places of physical activity among children and adolescent in Finland (Government of Finland, 2022)*

Photo: © Matti Hirvonen / HerTo

ECONOMICAL IMPACTS OF LEISURE TIME CAR TRIPS

Cars are often seen as the ”wheels of the economy”. Research of four decades has also proven the economical downside of the car dependency. When households purchase a vehicle, they assume that governments will provide roads and traffic services, and that businesses will provide off-street parking facilities for their use. Negative externalities of car use also include congestion delays to other vehicles, “barrier effect” delays to pedestrians and bicyclists, noise, air pollution, exhaust fumes, climate change, injuries and negative health effects. The social cost of every car driven kilometer has been estimated to be 0,31 – 0,35 € depending on the car model. Private costs for the owner of the car are even higher being 0,45 – 0, 86 €/km. [23]

Majority of children’s and adolescents’ leisure time trips are done by private cars. Mobility management of leisure time trips for example by decreasing the travel demand would save a lot of money from the society and individuals every year. Minimizing the travel demand by changing the serivce structure would be highly beneficial for the society in many ways (figure 5).

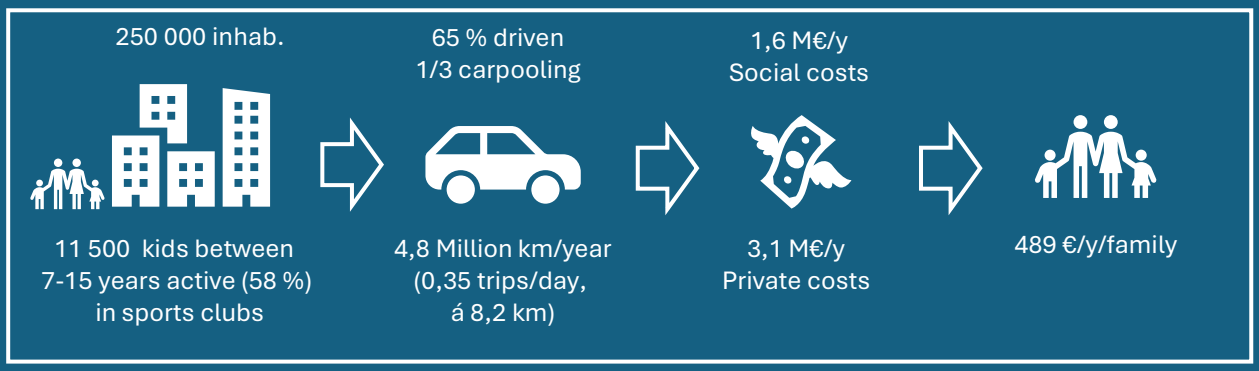


Figure 5. *Calculation example of the travel costs for leisure time activity trips in a Finnish city of 250 000 inhab. based on different research results and statistics*

Sport specific events in far away locations are expensive and harmful to many commonly agreed goals and early specialization poses public health problems. Like Bell et al. well stated in Journal of Athletic Training in 2019: *“Adults have created an environment that will have vast implications for the long-term health of our youth. In this 2-tiered system, one group is characterized in many ways by a highly specialized cohort that requires underwriting of significant economic costs and that also leads to overuse injury and burnout. This is juxtaposed with the second group, which may be less specialized, cannot afford the costs to play, has fewer opportunities to participate in physical activity, and may be at risk for long-term sedentary-lifestyle diseases. All individuals who are dedicated to improving the culture of youth sports - whether it be health care providers, coaches, or parents - must work to create a culture in which economics do not drive access and health.”* [25]

ECONOMICAL BURDEN OF SPORT RELATED INJURIES

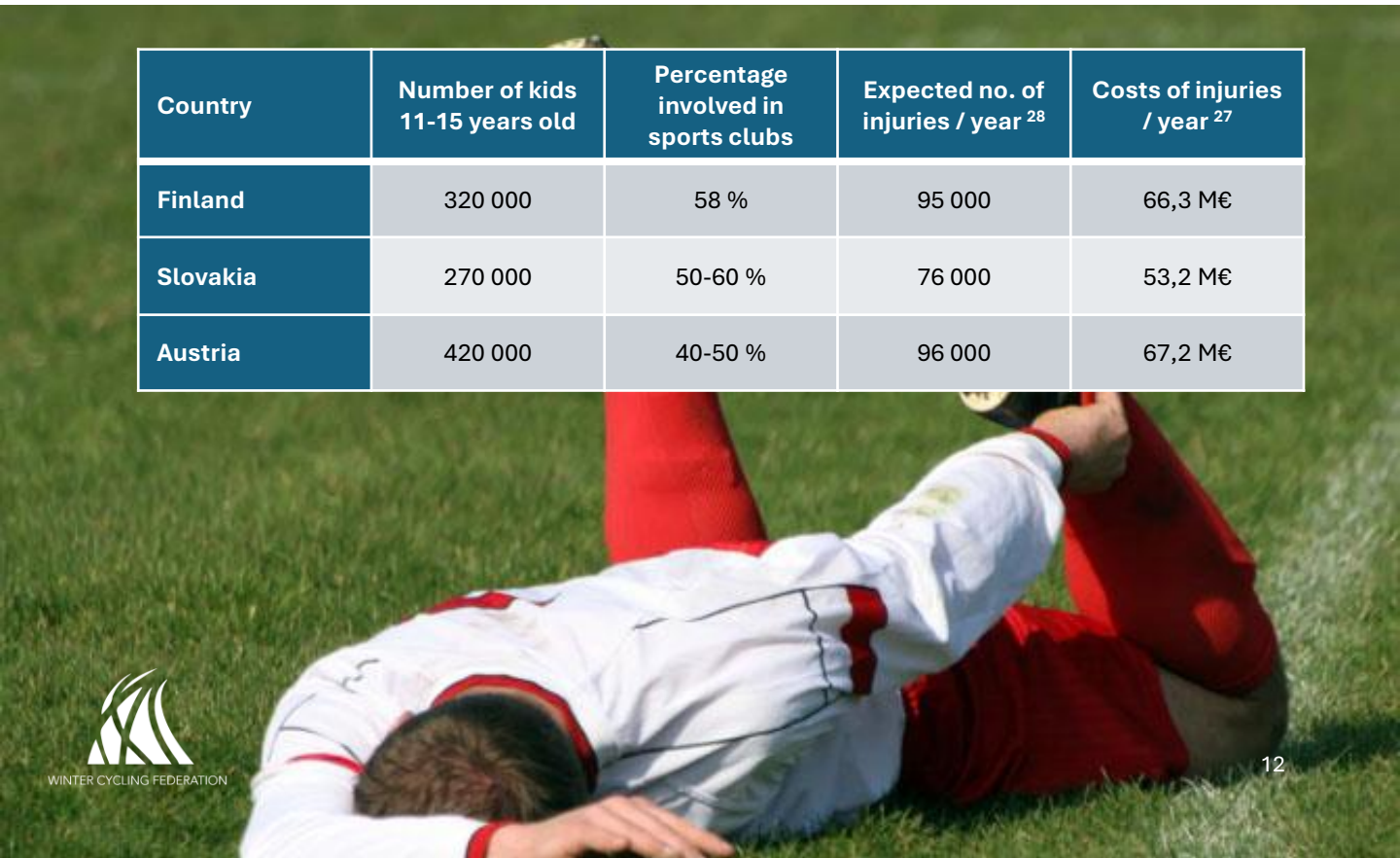
In Austria 20 years ago sport related health costs accumulated 53 % of sport's health savings. From a health point of view two objectives need to be pursuit simultaneously: to increase sport participation and to reduce the injury risk involved. [26] During last two decades the share of youth sport injuries and costs have been rising. Average cost of a sport related injury is about 700 €. Athletes who specialize in one sport have a 70% increased risk of suffering an injury compared to those playing multiple sports. The overall injury rate in organized youth sports is about 6.4 injuries per 1,000 athletic exposures. [27]

A Finnish nation-wide survey among school children concluded that a half (51 %) of the kids between 11-15 years old participating in organized sports reported at least one PA-related injury during the last year. This results indicates that adolescent PA-related injuries are a large-scale problem and there is a worrisome rise in injury prevalence in recent years. [28] Another study found out that high Socio-Economical Status (SES) athletes reported more serious overuse injuries than low-SES athletes, potentially due to higher rates of sports specialization, more hours per week playing organized sports, higher ratio of weekly hours in organized sports to free play, and greater participation in individual sports. [29]

Unstructured free play may provide exposure to a wider variety of movement patterns and exercise intensities than does organized sports training and therefore may promote more balanced muscle strength and flexibility and enhanced neuromuscular control, which have been shown to reduce the risk for injury. Additionally, free play is child-driven, which may allow for more self-regulation than adult-driven organized sports training and competition, during which a young athlete may not feel comfortable volunteering symptoms of injury as readily. [30]

Table 2. *A hypothetical calculation of youth sport injury costs in SIASP -project partner countries*

Country	Number of kids 11-15 years old	Percentage involved in sports clubs	Expected no. of injuries / year [28]	Costs of injuries / year [27]
Finland	320 000	58 %	95 000	66,3 M€
Slovakia	270 000	50-60 %	76 000	53,2 M€
Austria	420 000	40-50 %	96 000	67,2 M€



2.3. Lack of recovery performance of young athletes

Sedentary lifestyle, early sport specialization and year-round training has reduced independent mobility, unorganized free play and overall physical activity of children and adolescents. Kids are being transported by parents to sports practices. At the same time, only a minority of sports club participants in Nordic countries meet the daily recommendations of physical activity. [74,75]

In sports, the $VO2_{max}$ has typically been the parameter to evaluate aerobic capacity. Just recently the second ventilatory or lactate threshold (VT2, LT2) has been established as an important indicator of exercise intensity tolerance. A higher LT2 / VT2 allows for greater duration of higher intensity exercise participation and subsequently greater reductions in cardiovascular disease (CVD) risk. [76]

Organized sport sessions become mostly high-intensity trainings for most of the children, as their aerobic capacity is underdeveloped due to the insufficient amount of low or mediocre intensity physical activity outside of the sports practices. Therefore, the aerobic capacity of most of the children and adolescents is not on a sufficient level to endure sports practices.

An ongoing Finnish research among junior football players has a found that only 30 % of junior football players benefits from current football practice intensity levels. The rest (70 %) have a significantly reduced exercise intensity tolerance which exposes them to burnouts and overuse injuries. [77]

According to these research results it is legitimate to argue the reasonableness of organized competitive sport trainings for young children. The results indicate that for better sporting success and to avoid overuse injuries, burnouts and drop-outs, children need more low intensity physical on their own, outside of sports practices. This should be high in priority also in sports club's activities.

Photo: © Jani Ailovuo

3. BENEFITS OF ACCESSIBLE SPORTS FACILITIES AND SERVICES

There are more dimensions to the definition of *accessible sports venues and services* than meets the eye. Often in the literature, the concept of *accessible sports facilities* is associated with developing sport venues for all abilities. Lately the definition for accessibility has gained many new meanings as fast development of technology, automobilization, social exclusion, mental health issues and commercialization of youth sports have brought up new barriers to participation.

A big portion of sport facilities are not reachable by active travel modes, at least for the youngest ones due to the long distances and different barrier effects of the build up environment. The high cost of hobbies has also become a significant obstacle for a growing part of children and youth. In addition, the trend emphasizing early specialization in the youth sports has increased the barrier to get involved in a sport on a later age. Furthermore, the present sports culture that emphasizes competitiveness and success, combined with early specialization, has caused many children to stop participating in sports club activities at a very young age. For example, up to 70% of children will drop out of sport by the time they are 13 years of age and girls drop out of sports at a rate twice that of boys. The primary reason for dropping out of sport most often cited by children themselves is that it is no longer fun. [31] Sports organizations has been referred to be the biggest "throw-away" organizations in our modern society.

With this development on mind, the SIASP-project addresses the year-round accessibility of sports facilities and services from four following different perspectives. All four categories are reviewed with their benefits and best practices.

1. Active urban design for children and adolescents - cities for play
2. Active travel to sport facilities
3. Mobility management of leisure time activity trips
4. Inclusive community sport

Photo: SIASP-project team visiting Seestad in Vienna (photo © Timo Perälä

3.1. Benefits of active urban design and cities for play

Near-by living environment with activating elements has particularly significant positive impact on the physical activity (PA) of children and adolescents. A systematic review of scientific articles published in 2021 stated the following.

"Difficulty regarding the accessibility of community recreational facilities and concerns of neighborhood safety were negatively associated with children and adolescents' PA participation. Instead, higher safety reported neighborhood was positively associated with spontaneous active play across genders. The accessibility to public recreation facilities and the location were significantly associated with PA in girls. Environmental opportunities were associated with change in PA in adolescents. Neighborhood household income level was a significant predictor of both sports and PA and active free play. Adolescents who lived in neighborhoods without sidewalks were 1.3 times more likely to be inactive than counterparts." [32]

The list of evidence for the need of active urban design is long. [32-41] But still, adults have chosen to remove physical activity out of our children's everyday life due to so-called economical efficiency. Parents are trying to compensate the sedentary lifestyle by buying health for their kids from the sports clubs. Participating in hobbies and sports club activities have many positive effects - increased physical fitness being the most sited one - but at the same time the existing competitive driven system has its own undiscussed disadvantages.

Children's intrinsic motivation for sports has been thwarted by adult's introducing early competition and extrinsic rewards. Early sport specialization and year-round participation have contributed to children's attrition from sport. We should remember, **that fun and intrinsic motivation are the most reported reasons children participate in sports, and the fundamental goals of children's sport.** No fun, no play, no positive impacts of physical activity. Fun is one of the greatest predictor for fitness gains. [42]

3.2. Best practices of active urban design and cities for play

This category consists of a wide variety of best practices. The selection that meet the SIASP-project's goals best have been presented in this chapter. The goals were the following: increasing the physical and social activity of children and adolescent, independent mobility and increasing independent outdoor play in their own residential areas. This report highlights the permanent solutions made in different parts of the world.

A CITY FOR ACTIVE CHILDREN: ASPERN SEESTADT, VIENNA

Photos: www.aspern-seestadt.at

GENERAL DESCRIPTION

Aspern Seestadt is one of Europe's largest urban development projects. Begun in 2010 on the basis of the master plan approved in 2007, it has since been developed into a new, multifunctional urban center combining high-quality sustainable housing – flats for sale and let, serviced apartments, student accommodation, etc. – with innovative, future-proof office space, premises for manufacturing enterprises & service providers and science, research and educational facilities, rounded off by a comprehensive urban infrastructure.

LESSONS TO BE LEARNED

50 % of Seestadt is open space. A variety of seating areas, playground equipment integrated into the public space and numerous trees in parks and street spaces invite people to linger. Children can use the open spaces and squares for play and go on a discovery tour through Seestadt with their friends. These are all ideas that played a major role early in the conception and design of the public space.

Distances are short within Seestadt. The public space is dedicated primarily to pedestrians and cyclists. Car traffic deliberately plays a minor role, as cars are not the best means of transport for short distances. Diverse public spaces and car-free areas make walking and cycling more attractive. They also make Seestadt a child-friendly city. This is confirmed by residents.

The more cars that can be parked in garages instead of streets, and the less cars we need all in all, the more space will be available for walking, cycling and public squares. Free space is created for a leisurely stroll with friends or a relaxed chat with acquaintances. [43]

URBAN PLAY: PERMANENT PLAY STREETS

Densely populated urban build-up areas around the world lack safe places for children to play and be physically active. One solution to this issue is “Play Streets” which was first introduced as early as in the 1930’s. Most often the play street concept involves the temporary closure of streets for several hours to create a safe space for active play and physical activity. Taking public space permanently away from the car traffic to increase independent play is far rarer, even most residents might be in favor for it. [44]

HACKNEY’S PERMANENT PLAY STREETS & CHILD FRIENDLY DESIGN PRINCIPLES

GENERAL DESCRIPTION

London Borough of Hackney has a child-friendly design principles for urban planning that goes beyond designing just designated playgrounds. The design manual takes urban planning towards shaping the physical features of public space around and in between buildings to become more inclusive and welcoming for everyone. The design guide contain following 8 principles with design checklists: 1) Shaping my borough, 2) Doorstep play, 3) Play on the way, 4) Streets for people, 5) Contact with nature, 6) Destinations for all, 7) Making spaces young people want to be and 8) Health and well-being. [45]

LESSONS TO BE LEARNED

The importance of planning policy which stipulate minimum play space provisions and secondly, the benefits of engaging with children to understand their needs. Beyond this, comes the need for specialized designers who can translate these visions into physical outcomes. In King’s Cresent Estate’s pilot rather than simply specifying a manufactured playground, the designers created custom objects which playfully integrate into the landscape, appealing to various ages. A ‘play laneway’ is partially closed to traffic and includes a series of curated design interventions which stimulate the imagination and entice playful and social behaviors. As London based architect Dinah Bornat said: “We need to consider how children will move around a neighborhood before we place a single building”. [46]

Photo by greenblue.com

ACTIVE DESIGN BY SPORT ENGLAND

GENERAL DESCRIPTION

Sport England published "Active Design Guidelines" in 2007, which provided a set of design guidelines to help promote opportunities for sport and physical activity in the design and layout of new development. In 2015 the guidelines were further developed into the "ten principles of Active Design. The Active Design principles are becoming increasingly embedded into Built Environment practice and placemaking design, with a growing list of Local Authorities in England making reference to Sport England's Active Design guidance in planning policy. In 2023, Sport England's third iteration of Active Design guidance, supported by Active Travel England (ATE) and the Office for Health Improvement and Disparities (OHID), was produced to further help creating 'active environments' all over England. Active Design focuses on three themes; supporting active travel; active, high-quality places and spaces; and creating and maintaining activity. Government has funded several pilots implementing Active Design principles into British cities since 2007 through funding programs such as "Levelling Up" and "Transforming Cities". The lates edition on Active Deign introduces a set of pilot projects' learned lessons. [47]

LESSONS TO BE LEARNED

Lessons to be learned from Sport England's Active Design projects could be summarized to following points:

1. *Guidance and tools from the government level together with funding possibilities.*
2. *Cross sectorial co-operation and common vision on governmental level.*
3. *Local political ambition and support. Local adaptation of guidelines and principles. Overall costs and benefits assessment.*
4. *Public and stakeholder engagement.*

Photos by Sport England

3.3. Benefits of active travel to leisure time activities

European children are frequently driven by car to school and leisure time activities. This negatively affects the children's physical health and psychological well-being and is instrumental in children's declining independence. Overall, there is strong evidence for the positive impact of interventions to increase active travel. [48]

Active travel promotion is mainly focused on active school trips. Children spend just as much time outside of school as in school. Leisure time activities are important arenas for children to develop their sense of independence and for being physically active. For example, in Germany, school trips account for nearly 36% of trip purposes in 10-19 years old kids. Additionally, around 40% of trips are made related to leisure activities, around 15% related to shopping and everyday accomplishments. Travel mode on school runs is only weakly correlated with travel mode on leisure trips (Hjorthol, 2008). Yet there is still very little discussion about accessibility of leisure time destinations. From the research results, we know that the travel mode is influenced by distance, age, gender, parent's attitude towards independent travel, as well as environmental and parental factors. [49 - 52]

Little is known about the influence school transport mode has on transport to leisure activities and subsequently on children's general level of physical activity. Further, studies on children's physical activities have rarely been related to what is called "everyday mobility", i.e. the mobility patterns of the whole family, especially the parent's use of car compared to other transport modes. Zeiher (2001) has claimed that children's lives can be characterized by "insularisation", i.e. that children's life are institutionalized through day care and school, and by transport from island to island of music or sports arrangements etc, through a landscape made for grown-ups. The same phenomenon has been labelled the 'Glasshouse childhood' (Kyttä, 2003), where children can only familiarize with the environment through the help of parents. [49]

From the public health perspective, not only the transport mode is decisive for health-related benefits of habitual travel behavior but also the independence from parental supervision while traveling. The absence or presence of an adult is of high relevance for PA as children are more active without adult supervision (Mackett et al., 2007). [52]

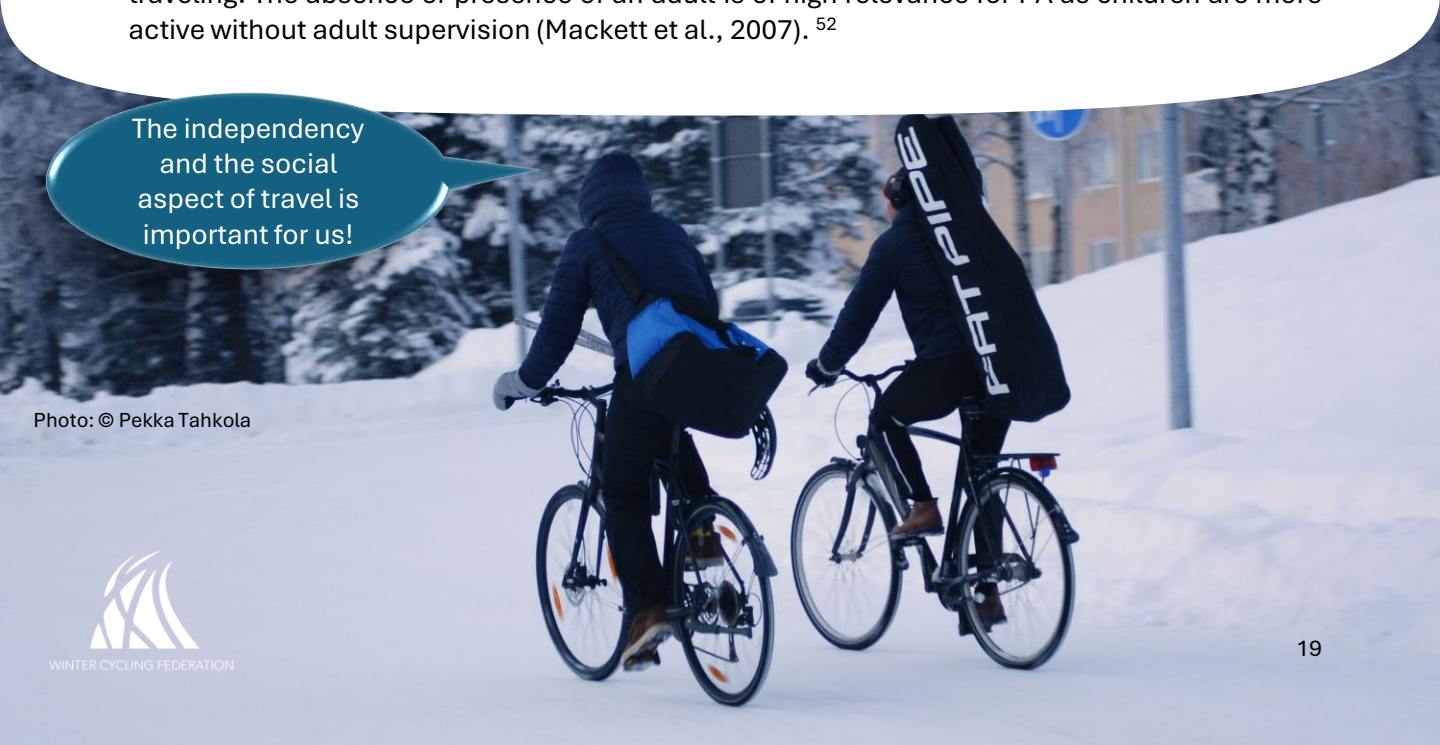


Photo: © Pekka Tahkola

As distance being one of the major obstacles for active travel on leisure time activity trips, near-by, safe and accessible leisure time activity opportunities become crucial. The proximity and accessibility of leisure time activities (so called community sports or activities) for children and adolescents increases the possibility for independent travel and participatory of otherwise hard-to-reach target groups. The benefits of community-based leisure time activities is explained more in details in chapter 3.7.

Travel costs can make up surprisingly big portion (29 % in USA including practices and away games/tournaments) of average annual family spending on sports. [73] Enabling safe and attractive active travel connections or relocating sport activities closer to the participants can save a lot of money from the families and from the society. A Finnish study found out that a community sport program in the neighborhood reduced travel distance by 56 km per week, travel time by 1 hour 54 min per week and travel costs by 990 € per year / family compared to the families with no community sport program available in their neighborhood. [15]

Figure 6. *Summary of benefits of accessible sport facilities and active travel on leisure time activity trips*

Figure 7. *How community sports can reduce car usage on leisure time activity trips*

Lähirähinä community sport program in full swing at Lämsänjärvi residential area, Oulu, Finland (Photo: © JS Hercules)

3.4. Best practices of active travel to leisure time activities

We have many good initiatives, intentions and projects, but we rarely change priorities and everyday mobility habits in real life.

Walkability and cycling friendliness of the build urban environment are key factors if we want kids to go around safely and independently. Unfortunately, adults have ruined most of our cities according to their preferences and urgencies. We have many good initiatives, intentions and projects, but we rarely change priorities and everyday mobility habits in real life.

Ideally child-friendly active transport solutions should be secured at the very earliest phases of strategical planning and in zoning phase. We know very little of children's and adolescents' needs. Like a Norwegian project "Children's tracks" declares on their website (https://www.barnetrakk.no/en/): "It seems that the majority of municipalities in Norway have a greater knowledge as to the movements of elks rather than that of children and adolescents". Sad but true.

Service structure planning and mobility management are other important tools to reduce travel demand and increase active travel shares. Multiuse of public spaces and buildings should be high in the priority also. Typically, decentralization of services with economical efficiency narrative is a common initiative that increases the travel demand, travel distances and car dependency. Then cities run out of money to build attractive and functional walking and cycling infrastructure, because all car traffic infrastructure is taking major part of the budget. "It is too expensive; we cannot do it". The priorities in traffic planning are simply wrong.

SIASP-project highlights best practices, that enables children and adolescents to go independently to their leisure time activities (and are actually doing it). According to a study covering 16 different nations, Finland is by far the highest performing country in children's independent mobility, followed by Germany, Norway, Sweden, Japan and Denmark, who score more closely to one another. This study had broader theme than just active school travel. The six main independent mobility indicators of this study were "main roads", "other journeys", "school journeys", "after dark", "local busses" and "cycling". Based on result of this study, the degree of independent mobility granted to Finnish children is striking. [54]

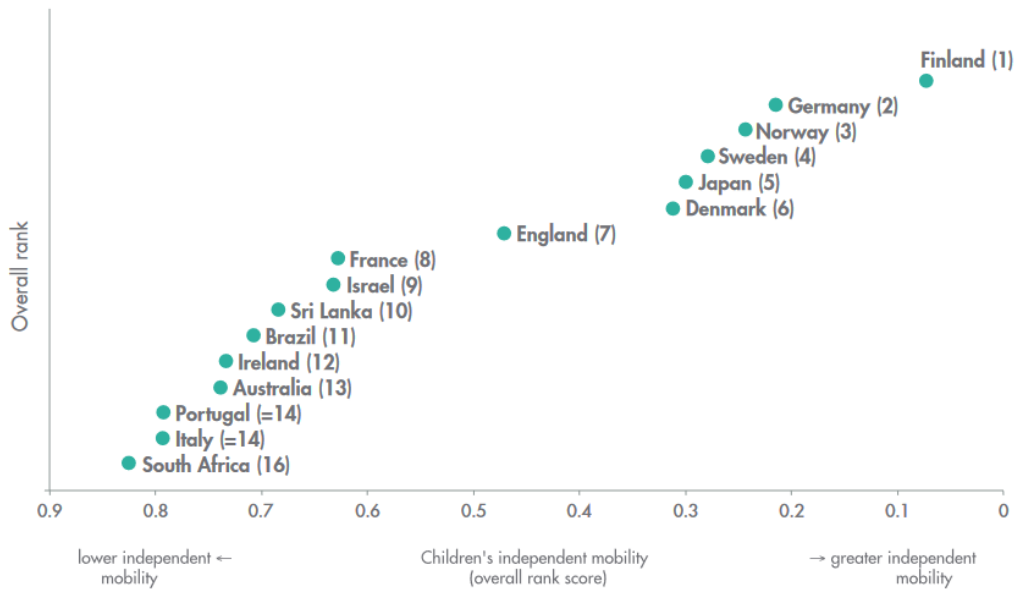


Figure 8. *Differences in overall children's independent mobility levels compared* [54]

OULU – ALL DESTINATIONS ACCESSIBLE YEAR-ROUND

As the main question in SIASP-project is: "which cities are the best ones for children's and adolescents' independent mobility in their everyday life, year-round", therefore we have picked the best of the best for this category.

Photo: Pekka Tahkola

Photo: City of Oulu

Photo: © Timo Perälä

GENERAL DESCRIPTION

Oulu is the cycling capital of Finland and the winter cycling capital of the world. Oulu has an extensive separated pedestrian and cycling network of 960 km that offers basically accesssibility to every possible location by foot or by bike. 99 % of the network is maintained through the year and most important connections are being maintained 24/7 no matter what. The network favors pedestrians and cyclists as the connections for active modes of travel are more direct and many times faster than by car. More than 330 underpasses and 100 % illumination of paths makes walking and cycling safe for all ages and abilities. Cycling or walking to schools is the most common way (74 % of all school and studying trips) to get to school year-round, even in arctic conditions. Currently Oulu is building a 400 km in-city MTB network that can be also used for commuting and reaching other every-day destinations within the city.

LESSONS TO BE LEARNED

Like elsewhere else in EU, the private car is the dominant travel mode for the leisure time activity trips in Finland. As all destinations are safely, easily and year-round accessible by bike and foot, Oulu has probably the biggest potential to increase active travel modes on leisure time activity trips. Still, centralization, long distances, tight scheduling, sport specific factors (such as transport of sport gear) and parent's behavioral and attitudinal factors are the main influencers for car dependency on these trips also in Oulu.

As case Oulu shows, only providing active travel infrastructure is not enough to change the existing car dominant travel behavior on leisure time activity trips. Multidisciplinary action are needed to fulfill the active travel potential on leisure time trips.

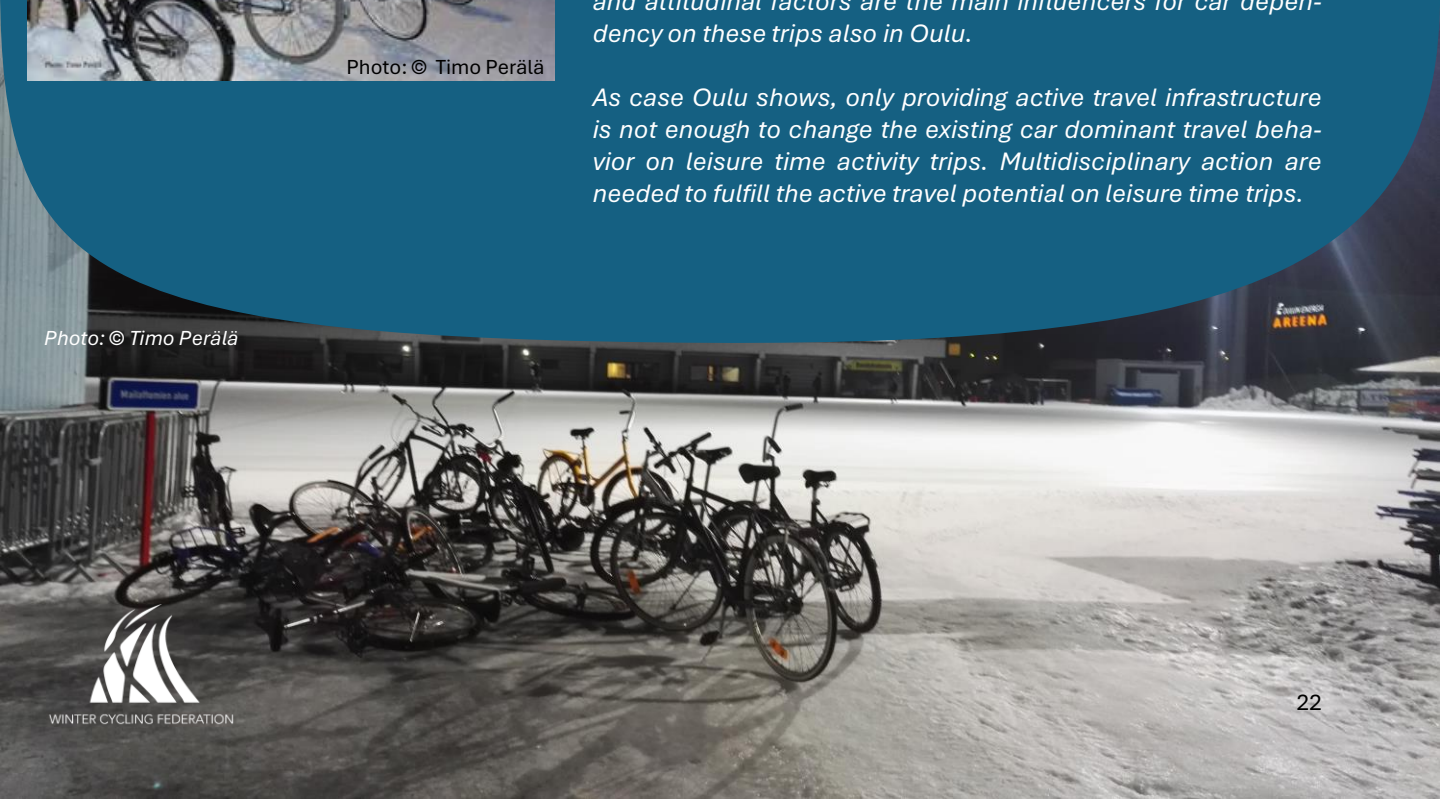


Photo: © Timo Perälä

RAATTI - ACTIVE TRAVEL FRIENDLY SPORT FACILITY, OULU

GENERAL DESCRIBTION

Often "active travel friendly" sport or other leisure time activity facility label is given based on a quality of bike parking facilities or walkability of the proximate area. It is all good but does not encourage children to come there on their own if the door-to-door connection is not safe, convenient and fast. Oulu sport and other leisure time activity destinations are good examples, since the most convenient way to reach the destination is given for cyclists and pedestrians. This planning priority principle - similar to many Dutch cities - was implemented already in the 1970's.

Our example, Raatti Sport Center, is located on an island in the hearth of the city of Oulu. The sport center can be reached from all directions by active travel modes through bridges designated for active travel modes. Super cycling highway runs also through the area. Children can access the facilities without crossing any heavily trafficked streets using underpasses or bike & pedestrian traffic prioritized crossings; even from all the way from the outskirts of the city. Therefore, it is not uncommon to have kids coming to swimming, football or athletics trainings by bike on their own despite "helicopter parenting".

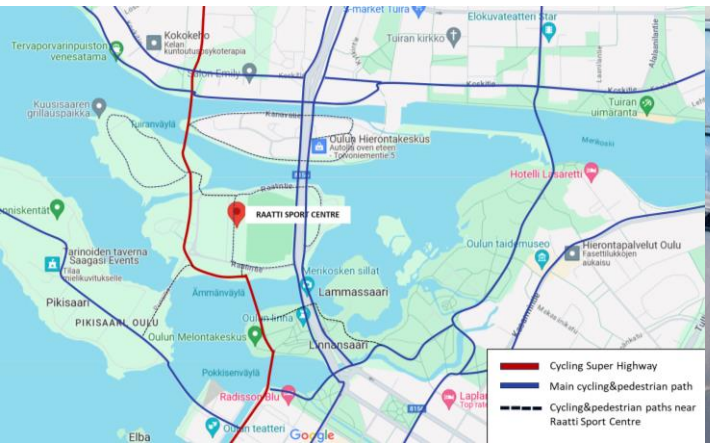


Figure 9. *Map of active travel mode connections to Raatti Sport Center, aerial view of Raatti island (City of Oulu)*

ACTIVE TRVEL FRIENDLY LOCAL SPORT FACILITIES, OULU

GENERAL DESCRIBTION

Like in most of the Nordic countries, the local sport facilities are often located within the school areas and are being used during evenings by public, sports clubs and other organizations. What makes Oulu special is the network design principles of active travel connections. Residential areas are planned is such way that the route to school area is safe, the fastest and the most direct by active travel modes. This enables also kid's active and independent travel to the local sport facilities during their leisure time. Unfortunately, no attention is paid to mobility management when organized sport's practice hours are being applied or shared. Also, the community sport scheme is close to non-existent in most of the neighborhoods. Therefore, transporting kids to their leisure time activities is common because distances can get too big.

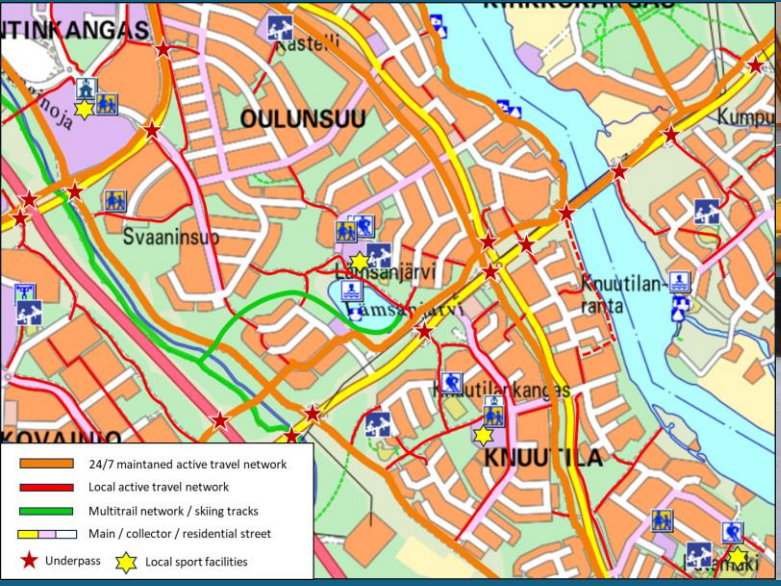


Figure 10. *Map of active travel network in residential areas of Oulu / Local school sport area facilities from the area*

LESSONS TO BE LEARNED FROM OULU

The city of Oulu is among the most children and adolescent friendly cities in the world. Oulu offers safe, fast and convenient active travel connections to all possible destinations within the city though out the year. Also, the nature is near everywhere in Oulu. Still Oulu faces same kind of problems of children's and adolescents' increasing physical inactivity, early sports specialization and high rates of drop-out phenomenon and sport injuries as any other city in the world.

The lesson from Oulu is that just providing the active travel network helps to increase active travel on leisure time trips but is not the sole solution to the inactivity problem. If parents feel that they must drive their youngest ones to a certain remote location to be physically active and gain good experiences at very early age, then the active travel network does not help too much. Also sport federation's and sports club's attitudes should be tackled to fight against early specialization and encouraging children to be active on their own, rather that constantly increasing the number of sport participation in organized sports.

3.5. Mobility management benefits of leisure time activity trips

Mobility management is used to increase the efficiency of the transport system by providing services and information for the residents. Often mobility management actions target to reduce private car use and increase the attractiveness of sustainable modes of transport.

Mobility management in leisure time activity trips is a challenging entity with strong cultural habits and expectations. Therefore, it is important to understand the current parental motives of chauffeuring kid's leisure time activity trips. For most of the parents, car offers an ideal space to affectively demonstrate to children that their participation to the activities is valued. Some of the parents feel that showing affection and involvement by chauffeuring prevented children 'slipping away' from the activities. Letting children manage the journeys to the activities themselves would be at best 'unsupportive' and at worst straightforwardly 'hampering'. Therefore, the car is seen as an integral part of the appropriate socio-spatial organization of childhood [55]

As previously presented in this report, active travel to leisure time increases children's physical activity, independence and overall psychological wellbeing. Children's autonomous mobility has been widely studied, but minimal research has been dedicated to how it emerges - how children 'become mobile' across socio-spatial contexts. A four-month mobility management project in Jyväskylä saw even more diverse and profound positive impacts on kid's everyday life as the project provided the sport community an opportunity to reshape their 'mutual understanding' on parenting, mobility and childhood. [55]

Figure 11. *Summary of mobility management project's impacts on 13-year old ice-hockey players* [55]

Photo: JYP-Juniorit

3.6. Mobility management best practices of leisure time activity trips

MOBILITY MANAGEMENT OF SPORTS CLUBS, CASE JYP-JUNIORS

GENERAL DESCRIPTION

"Mobility management of sports clubs" was a pilot project from Jyväskylä region, Finland, that got funding from the Finnish Transport and Communications Agency. The project lasted 4 months from March to May 2021. The main target was to define and remove main obstacles from smart mobility choices for the players of U13 children's ice-hockey team. The actions of the project were following:

- *Changing the mindset of coaches:*
  - *Active travel to the trainings became part of the practice event.*
- *Storing of the hockey equipment at the hockey hall.*
  - *This was the main obstacle for active travel of the training trips. The club rented a container to store and dry the hockey equipment.*
- *Changing travel habits.*
  - *Cycling buss to the hockey practices.*
  - *Free buss tickets for players.*
  - *Car pooling for players coming from remote places.*
- *Other activities.*
  - *Teaching how to use local bussess.*
  - *Bike repair and maintenance clinics.*
  - *"How to bike in our city" –training.*

Photos: JYP-Juniorit

LESSONS TO BE LEARNED

The pilot showed that together with different stakeholders it is possible to change existing habits and cultures. In the beginning the parents were the ones who were most concerned how independent cycling to practices in winter goes. Kids themselves weren't concerned at all.

Like Oulu, Jyväskylä is another cycling friendly Finnish city. Therefore, the missing or unsafe active travel connections weren't really regarded as an obstacle. The biggest obstacle was pretty easily tackled as some partners were found to cover expenses of the heated and airconditioned container for storing the hockey gear.

The results of the pilot project were remarkable in such a short time frame. This shows how different actions are needed to break the old habits and beliefs. This kind of activities should be implemented into existing processes and work tasks / definitions. As project funding ends, then the needed activities also are little by little being forgotten. This happened also in Jyväskylä.

ACTIVE TRAVEL TO PRACTICES & GAMES, CASE HERTO

GENERAL DESCRIBTION

Herttoniemen Toverit (HerTo, www.herto.fi) is a football club based in Herttoniemi - a suburb of 27 000 inhabitants located 7 kilometers east from Helsinki downtown. HerTo organized football activities for boys and girls starting from the age of 6. Besides junior football teams HerTo has also teams for adults, hobby teams, family football and senior team activities. HerTo has their own football pitch in the hearth of Herttoniemi residential area, where the youngest teams have their practices. The pitch is within walkable distance (less than 2 km) for most of the participants. The club is run mostly by volunteers / parents with only one part time employee.

In 2021 one team's volunteer-parent (who also works for the Finnish Network of Cycling Municipalities) initiated organized cycling to practices and games. After one season the model expanded to other teams as new volunteer roles were established for each team. One parent is responsible setting the starting point, time and route to the practices for group cycling and 1-2 volunteer parents participate in group cycling, if children are young and still feel uncertain of their cycling on their own. The route is designed so that players can also join along the way. After training, children cycle the same route back together.

For games further away from Herttoniemi the groups use also public transport for covering most of the trip by subway or bus. The club has agreed as a guideline that distances of less than two kilometers should be walked, distances longer than this should be cycled, and if the distance exceeds five kilometers, cycling should be combined with, for example, the metro or bus. HerTo got awarded in 2024 by the Finnish Olympic committee as the "Smart Club of the year 2023" nomination.

LESSONS TO BE LEARNED

The principle of HerTo group cycling is the same as in "cycling school buses". The feedback has been only po-sitive in HerTo. The players love cycling with friends and parents are happy to escpare from their logistical duties.

The expansion of one team initiative was easy to do as HerTo is a small club with straight forward model of decision making. HerTo did not use narratives such as "reducing emissions" and "increasing fitness" in communications. The most effective narrative for spreading the initiative to other teams within the club was making the everyday life easier for parents.

HerTo's model received a lot of publicity after receiving the award and interest from other clubs. Still, the activity has not yet been started in other clubs. Resources and cooperation with sport federations would probably be needed to spread the operating model. Network of Finnish Cycling Municipalities is applying for grants for this implementation work in 2024.

Photos: © Matti Hirvonen

ACTIVE SCHOOLS & AFTER SCHOOL ACTIVITY PROGRAMS

GENERAL DESCRIPTION

Children and adolescents spend half of their days in schools. Making that time more active has been a hot topic all over the world for decades.

Probably the most widely known comprehensive program is the Icelandic prevention model, which is a community-based approach with emphasis on reaching and mobilizing the parties involved in the immediate vicinity of children. The Icelandic model was started in late 1990's as Icelandic youth's rate of drugs and alcohol abuse was highest in Europe. One part of the Icelandic model was increasing the opportunities for young people to engage in organized leisure activities. [56]

In Finland, the schools were funded by the state to organize after school activities already in late 1940's. Teachers organized different art and music related hobby-clubs for school children. This funding was almost stopped due to the recession in 1990's. After school activities were resurrected again through multidimensional MUKAVA -project (2002-2005) aiming to increase the socio-emotial growth of school children. One essential part of this project was adding after school activities to the schools. This sub-project was called: "the integrated school day: a child-oriented perspective on reforming the school day" and was carried out in 7 schools in four different municipalities. [57] *The results were really promising and inspiring, but following governments failed to secure funding for permanent activity. Instead, another pilot-project was started to increase school children's physical activity within the school day. The project "Finnish Schools on the move – more action, less sitting down" was funded from 2010 to 2020. More than 90 per cent of Finnish schools participate in the program.* [58] *Lates development in Finland has been the "Finnish model for leisure activities" that was initiated in 2019 by Sanna Marin's government. Icelandic prevention model has been one inspiration for the Finnish model, that has been funded from the 2020.* [59] *The essential difference of this model compared to the previous after school activity programs is that the activities are being operated by sports clubs, NGO's and private service providers, not by teachers nor school assistants.*

LESSONS TO BE LEARNED

In Iceland, the usage of evidence-based practices, a community-based approach and creating and maintaining a dialogue among research, policy and practice have been noted to be the three pillars to turn ill-being of young people into well-being. Efforts for parental consensus has been a significant cornerstone to unite in making a better environment for their children to grow up in. [60]

In Finland, the evaluation report of "Finnish leisure time model" concluded that the model has offered new opportunities for those who previously did not have means to participate in after school activities. Still, there has been several practical difficulties in getting inactive children and adolescents involved and in ensuring quality and quantity of instructors for after school hours events. [61] *Furthermore, according to the service providers the current yearly funding protocols and procurements makes the model partly bureaucratic and inefficient.*

All in all, these two cases show that communication, active participation of all stakeholders across sectors and levels, changing parental mindset and evaluation data are needed for success.

The city of Reykjavik offers a leisure card worth of 400 € for every child between 6-18 years.

3.7. Benefits of community leisure time activities

Community based leisure time activities aim for inclusiveness and address individuals who are or are in danger for exclusion. The target is to build better communities that would prevent social problems or exclusion to occur. Sport or other leisure time activities are successfully used as a tool to integrate families and individuals to the local community and to the society in general. Also, increasing physical activity boosts general well-being, possibilities and skills of individuals for lifelong integration. [61]

Physical activity of children and adolescents is more and more outsourced for adult driven and supervised organizations. The independent outdoor play and natural social interaction with peers in local community has been widely replaced with social digital platforms. Children who might want to play outside are having hard time to find friends to play with. The age to start a sport hobby has decreased over decades. In 1960's kids joined sports clubs when they were 11-12 years old, today the average starting age is 6 years.

Recent data demonstrates that children who explored different types of sports or physical activities throughout childhood possess improved neuromuscular control compared with their peers with low exposure to sport or activity sampling. [62] Consequently, sport sampling is a major contributor to the development of physical literacy and promoting an active lifestyle. [63]

Community sports and leisure time activity programs are a great tool to bring fun, versatile physical development and social growth opportunities for local children. In many cases, these programs or movements are referred as "grassroots sports", "doorstep sports" or "low-barrier sports" programs describing the easiness and accessibility to participate in activities. Often these programs are funded by a national or regional authority and targeted for a certain target group. Recently, programs targeting girls' participation in physical activities have been emerging as girls are traditionally underrepresented in community sport and have faced a multi-level and complex set of barriers to their participation and leadership. [64]

In most of the community sport cases, the social impact is greater than actual physical activity increase. The health promoting effect of community sport on socially vulnerable groups seems not to result from an improved physical condition or sport-technical skills as such, but from processes of experiential learning among peers, incremental responsibility-taking and reflexivity. [65, 66]

Decreasing travel demand is not typically the main driver for community leisure time activity programs. Little research - if at all - has been done about travel behavior changes after community program implementation. One of the rare surveys showed that families participating in community sport program chauffeured their kids significantly less to sports practices than their counterparts. Even though there is a community sport program available, neighborhood safety, fear of crime and strangers, parental support, and perception of traffic are nevertheless important social environmental factors influencing children's independent mobility. Car ownership, distance to the activities, and neighborhood design are relevant physical environmental attributes.

Figure 12. *Benefits summary of community leisure time activities*

3.8. Best practices of community leisure time activities

LÄHIRÄHINÄ – FUN, NEAR, TOGETHER

GENERAL DESCRIPTION

There is a lot of different community sport programs in the world, but not many of them have been started with the intention to reduce children's chauffeuring to the sports practices and early sport specialization. Lähirähinä ("Lähi" means something that is near, "rähinä" equals to rumble) was started in 2015 after Winter Cycling Federation's president Timo Perälä visited Edmonton's Winter Cities Shake-Up conference and familiarized with the November Project (a grassroot sport movement from Boston, USA, november-project.com). He decided to start something similar back home, but more inclusive and with no need for transportation to be active together. Community grassroot activity program Lähirähinä started from Timo's own neighborhood and rapidly grew into 11 different neighborhoods in Oulu, Finland, reaching hundreds of families.

"Just show up, no registrations, no fees" and "fun, near, together" were the guidelines of Lähirähinä sessions that took place 1-3 times / week in near by sport fields, school gyms or just in public areas such as parks. Everyone was welcome from babies to grandparents. Sessions were loosely organized by participating parents who lived in the neighborhood.

Lähirähinä co-operated with local schools and with ~20 sports clubs in Oulu. Some Lähirähinä areas' schools even reserved some best evening hour slots for Lähirähinä's use and communicated with pupils' parents about Lähirähinä activities through their school-home communication channels. sports clubs often came to give "introduction to sport" -sessions when asked and if timetables matched. In later phases after receiving some funds Lähirähinä was able to pay for sports clubs for their sessions. Lähirähinä also started a sport ambassador program as local Oulu sport legends co-hosted some events.

LESSONS TO BE LEARNED

After two years of Lähirähinä operating a study "Reducing car dependency in sport activity trips by changing the sport service structure" was conducted. The survey conducted among Lähirähinä participant families showed that Lähirähinä was highly appreciated and seen as very necessary activity by parents of young children between 3 and 12 years old. Lähirähinä reduced families' chauffeuring of children to sports practices by 48 % and replaced participating to sports practices that located further away by 32 %. Almost all respondents (98 %) who did not have Lähirähinä operating in their own neighborhood, wanted to have similar kind of community sport activities in their own neighborhood. [15]

Covid-19 period stopped most of the Lähirähinä activities in Oulu. Even though Lähirähinä was highly appreciated and wanted by residents, it was hard to find enough active volunteers to be part of running Lähirähinä activities in their own neighborhood. Parents wanted to have the service, but did not want to be part organizing it. Since the city of Oulu did not want to favor Lähirähinä over other sports clubs (= did not dare to change the existing sport structure) and at the same time "The Finnish Leisure Time Model" was about to start, most of the Lähirähinä areas did not restart after Covid-19 period.

Even though time and cost savings were appreciated by parents, the best outcome of Lähirähinä was its social impact; resident doing things together in their own living area. Also sport sampling was found widely useful as families (and kids especially) were able to try out different things in their own neighborhood with their friends and family members.

Photo: The best kids can think of: Free play

Photo: Let's play! Together in da hood!

Photo: Sport sampling near by

Photo: Lähirähinä ambassador Lasse Kukkonen giving signatures after hockey session

All photos: © Timo Perälä

STREETGAMES: DOORSTEP SPORT

GENERAL DESCRIPTION

Since 2007, StreetGames has been one of the UK's leading 'sport for development' charities harnessing the power of sport to create positive change in the lives of young people. Their mission is to transform the lives of young people living in low-income, underserved communities through sport and physical activity.

Doorstep Sport is an innovative sporting offer by StreetGames that bypasses many of the traditional barriers to activity amongst young people in poverty. Doorstep Sport, is activity that is delivered in local communities in the right style, at the right time, at the right price and by the right people. Doorstep Sport is an effective intervention to engage young people in positive activities and is widely recognized across many sectors, including the sport, youth, community safety and health sectors. StreetGames organization helps community organizations to provide effective Doorstep Sport in a way that supports young people to be healthier, safer and more successful.

LESSONS TO BE LEARNED

In 2013, Sport England invested £20m with StreetGames to create 1000 Doorstep Sport Clubs. These clubs run in areas of disadvantage and are designed to attract young people who are not otherwise members of sports clubs or gyms. Over 300 community organizations host Doorstep Sport Clubs. By the end of its four-year life, the £20m Doorstep Sport Club program finished on time, in budget and over the target set of engaging 100,000 14-25-year-olds. The project's main findings divided into 8 sections are following: [69]

1. *Knowing the Customer: the lifestyles and priorities of disadvantaged young people and their attitudes to being active.*
2. *Delivering the Insight: the 'Five Rights' of Doorstep Sport.*
3. *Growing the potential of Sport-for-Good: outcomes and connectivity with stakeholders from beyond the sports sector.*
4. *Acknowledging Value: how the network approach benefits young volunteers.*
5. *Strengthening Connectivity: linking grand events and local delivery.*
6. *Ensuring Compliance: encouraging and ensuring investment reaches disadvantaged young people through the network approach.*
7. *Establishing Change: the Doorstep Sport Club program as a transformational agent in the community sport sector*
8. *Sustaining Doorstep Sport: how best to build on the program's success.*

All photos by Doorstep Sports

COMMUNITY SPORT COACHES / MOTIVATORS

GENERAL DESCRIPTION

In Netherlands the "buurtsportcoaches" (sportindebuurt.nl) have a unique role as community sport motivators in 'connecting the dots' locally in the neighborhoods. In 2008, when the 'combined functions' (in Dutch 'combinatiefuncties') were introduced, no one could foresee the success of this position, now called the community sports motivators. In 98 % of all municipalities in the Netherlands, community sport motivators (in Dutch: Buurtsportcoaches) connect the dots between the sports sector, social sector, schools, care and childcare and even more. Their goal is to motivate people of all ages to take up sport or become physically more active. Nation wide there is approximately 6.000 professionals implementing Dutch sport policy at the grassroot level. the government funds 40%, municipalities or local sports organizations 60%. The government funds 40%, municipalities or local sports organizations 60%. For the years 2023 to 2025 the total sum is set to be 86,5 M€/year.

LESSONS TO BE LEARNED

In Netherlands it has been understood that a long-term sport policy is needed to build up the confidence in and capacities of community sport professionals. Important success factors in the strategy to coordinate and implement the community sports motivators are mutual trust, tailoring and continuity.

Research shows that community sports coaches are responsible for both organizing (95%) and supervising (86%) extracurricular sports activities at schools. A large majority (82%) of municipalities want to use community sports coaches to ensure that more children meet the exercise standard and that their motor skills improve.

The role of community sport coaches is evolving. In the new National Sports Agreement (2022), strengthening implementation power is one of the targets. Community sports motivators will be more often deployed to organize or realize the referral of inactive people to the existing offer. And with the new School & Environment program, the Dutch government is committed to equal opportunities by giving sufficient sports and exercise an extra impulse. This starts in the neighborhoods where the most vulnerable children live, also lagging behind in sports and exercise participation. Among started schools, good examples are already visible where clubs, community sports coaches and commercial sport providers make an important contribution to children's development. [70]

All photos by sportindebuurt.nl

4. DIGITALIZATION AND FUTURE OF SPORTS

Sports have become increasingly professional since the second world war. Currently sports are a global, big industry and a major influencer and trend setter around the world. Most of the sports clubs were founded to support wellbeing of industrial workers. Still today sports clubs are regarded as important players in preventive healthcare and therefore they are a major operator in wellness economy (value 5,6 trillion US$ in 2022) that has been estimated to form 5,6 % of the global economy output in 2022. Physical activity sector is one of the biggest sectors within wellness economy with 976 billion US$ annual turnover. [71]

So, are the sports organizations and clubs the ones that will provide the needed additional physical activity and more wellbeing for children and adolescents? The message from the science - as presented in this publication - is clear. We need multidimensional solutions and co-operation with different stakeholders and operators for social and physical inclusion.

Sports organizations and clubs are not the sole answer to the existing problems. Sports clubs can be important players in the process, but we cannot completely outsource physical activity and wellbeing of children for operators that are largely competition and economy driven. Fun is one of the greatest predictor for fitness gains. Therefore, we must plan our living environment and supporting processes involving children and adolescents and their needs. Also, adults benefit from more playful urban environment as interventions from all over the globe have shown. Capitalistic approach has neglected vital life practices like play in the urban setting. Areas of work and play are strictly separated, the latter rarely available to adults. Community assets like playgrounds provide predictable opportunities for play and recreation. Urban play forges equitable environments that improve the chances of diverse people interacting with each other. Play areas that blend into the urban fabric can create environments for social inclusion, intergenerational participation, and cultural diversity. [72]

Furthermore, we need to address the possibilities of technology development and gamification both in urban design and also in future of sports. For example, esports is already more popular than football and the most followed sport among male adolescents. New sports are emerging as extended reality (XR is an umbrella term to refer to augmented reality (AR), virtual reality (VR), and mixed reality (MR)) brings new dimensions to traditional sports, and to physical activity promotion in general.

Photo: Mun Oulu (City of Oulu)

”Sports clubs can be important players in the process, but we cannot completely outsource physical activity and wellbeing of children for operators that are largely competition and economy driven.”

” Play areas that blend into the urban fabric can create environments for social inclusion, intergenerational participation, and cultural diversity.”

4.1. Urban gamification, new technologies and services

The quote ”If you can’t beat them, join them” applies well with gaming and future of sports. Even though location-based augmented reality (AR) games have existed over a decade, the use of new digitalized gamification in urban design is still rather rare. At the same time, virtual and augmented reality sports are evolving as new disciplines of sports, especially among children and youth, Still, more traditional, sedentary gaming is the mainstream of esports. The merging of urban design, gamification and new technologies could provide great advantages in health promotion, especially for children and adolescents who are ”diginatives”.

Although the combination of new technologies, urban gamification and design can offer new opportunities to reach inactive citizens, the basic principles remains the same. Children and adolescents need safe and attractive possibilities to be independently mobile and active in their own neighborhood. As research show, the use of technology can help to mobilize inactive children and adolescents, but it won’t last for long especially if the living environment is hostile for independent mobility and for outdoor play.

Before recommendations of this report, let’s have a short sneak peak what kind of solutions we already have and how the digitalization and gaming might be useful in increasing independent outdoor play and physical activity of adolescents and children.

URBAN DIGITALIZED GAMIFICATION

Pokemon Go is the game that everyone knows and associates with urban gamification. And yes, it has increased physical activity of many keen Pokemonists. Besides Pokemon Go, there are numerous not that well known games, applications, installations and services that involve and aims to increase physical activity in the real world; outside in urban environment. These can be roughly divided under following categories: Urban AR games, Location based edutech, digital participation & hacking existing infrastructure, urban scavenger or reward games / projects.

Figure 13. *Four cathegories of urban digitalized gamification*

In general, gamification is an increasingly popular form of health intervention, but its efficacy remains elusive due to a lack of clarity in its conceptualization and operationalization. Nevertheless, several studies have shown that gamification can greatly increase children's and adolescent's motivation and engagement. It can reduce disruptive behavior and encourage children and adolescents to be more active.

URBAN AR GAMES

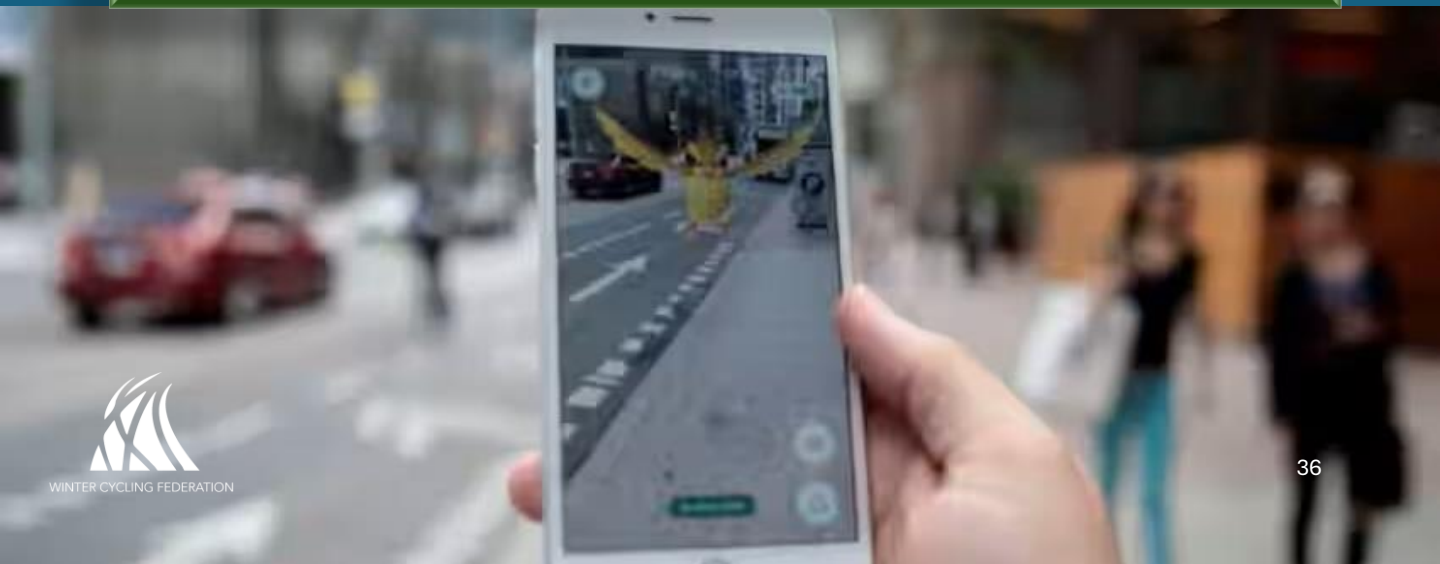
AR stands for augmented reality. Pokémon Go (released in 2016) is the market leader and the most popular AR mobile game. Other rather well known and played games are for example Ingress Prime, Harry Potter – Wizards Unite, Jurassic World alive, Knightfall, Arrrrrgh, Zombie Run and Ghostbusters World. All these games take the players outside to play the game and encourages them to be physically active outdoors as a part of the playing experience.

Pokémon Go is an augmented reality (AR) mobile game that requires players to explore their surrounding communities while hunting for a variety of virtual treasures and monsters (i.e., Pokémon) using smartphone technology. With smartphone GPS and Google Maps, it provides users with an AR experience where they encounter, catch and collect virtual species of Pokémon while exploring the real world. Pokémon Go demonstrates that cleverly implemented AR games can reach millions of people and trigger substantial behavioral changes. AR games can help increase physical activities and exercise provided people's interest can be sustained.

The number of people actively playing Pokémon Go dropped within a month of the game's release. However, even it is short-lived pervasiveness offers an unprecedented opportunity for further research into the specifics and nature of AR gaming, which is certainly going to become increasingly prevalent in coming years. The studies has also reported of traffic hazards and accidents as players have been concentrating on their mobile phones.

HOW THIS CAN HELP TO REACH SIASP -PROJECT TARGETS?

Almost everyone plays mobile or computer games. Research results show that AR games increase motivation, engagement and physical activity. Urban planners are usually not familiar with the urban gamification opportunities. More probably they are worried about the downsides, such as emerging traffic safety risks. Also the co-operation and interaction between gaming industry and different public admirative silos are rare. Education of urban planners and game developers is one of the key factors for progress.



LOCATION-BASED EDUTECH

The outdoors learning can positively influence children's personal and social growth, healthy development, wellbeing and learning abilities. New technology (location-based AR, geofencing, QR-codes, 3D holograms, projected games, etc.) and services (such as Beed.world and seppo.io) bring out emerging possibilities for educators to organize and execute outdoor learning. There is still great untapped potential to utilize learning environments and a children's physical location creatively in all forms of education. Also, location-based gaming is not a unified or well-established genre yet as children's safety and privacy issues need to be solved by developers

HOW THIS CAN HELP TO REACH SIASP -PROJECT TARGETS?

Active travel trips to leisure time activities combined with location-based education can be an effective tool in mobility management. With the help of technology, the journey to the leisure time activities can be made more appealing, interesting and rewarding, and can also act as a programmed part of the training sessions.

DIGITAL PARTICIPATION AND HACKED INFRASTRUCTURE

Traditionally urban planning happens in silos, where decisions are made by a without a comprehensive understanding what especially children and adolescents in the community need and desire. The result is that urban space may not resonate with the people who inhabit them.

Digital and gamified platforms have been used to bridge the gap between city planners and citizens. Gamification in urban development is more than just a trend; it's a powerful tool that promises cities which are reflective of their inhabitants' dreams and aspirations. By harnessing the power of play, we are not only making urban development more efficient but also ensuring it's a collective, inclusive, and joyous endeavor. Interactive maps, city-wide challenges and virtual town halls are some examples of gamified urban planning methods.

There are several interesting examples of gamification of urban spaces that make use of performance, artefacts, games and/or digital tools to gamify the city. One of the oldest and most effective practices of urban gamification, are Pride Parades – born over 50 years ago. Nowadays modern technology enables "the hacking" of existing urban infrastructure. In this approach, a whole host of urban objects become available to be co-opted into the game environment.

Engagement and participation of citizens through digitally gamified & hacked existing or build urban infrastructure is still rare. Some fixed gamified urban pieces of infrastructure do exist, such as the RijnWaalpad interactive light sculpture in the Netherlands. Rijnwaalpad is a super cycling highway between Arnhem and Nijmegen. The light sculpture is located in the tunnel under a highway, and it encourages greater use of the bicycle route and rewards cycling together. By using the Bicycle Buddy application cyclists can choose a favorite color. By passing the tunnel more often you can collect more colors to choose from. In this way cycling on the RijnWaalpad is rewarded.

Besides interactive light sculptures and installations existing gamified urban infrastructure examples consist of gamified interactive trails, playgrounds, street elements such as benches and traffic lights (for example “Dance, Dance” -pedestrian traffic lights). All these are great examples how gamification can be used in urban setting to increase physical activity. In many cases the problem preventing a wider impact in everyday mobility is the point-specific or project specific nature of the solutions. City-wide solutions are missing as syste-matic approach for urban gamification in different stages of urban planning does not exist. The data management in urban areas focuses on planning and building phases, not on the actual use of the urban environment.

HOW THIS CAN HELP TO REACH SIASP -PROJECT TARGETS?

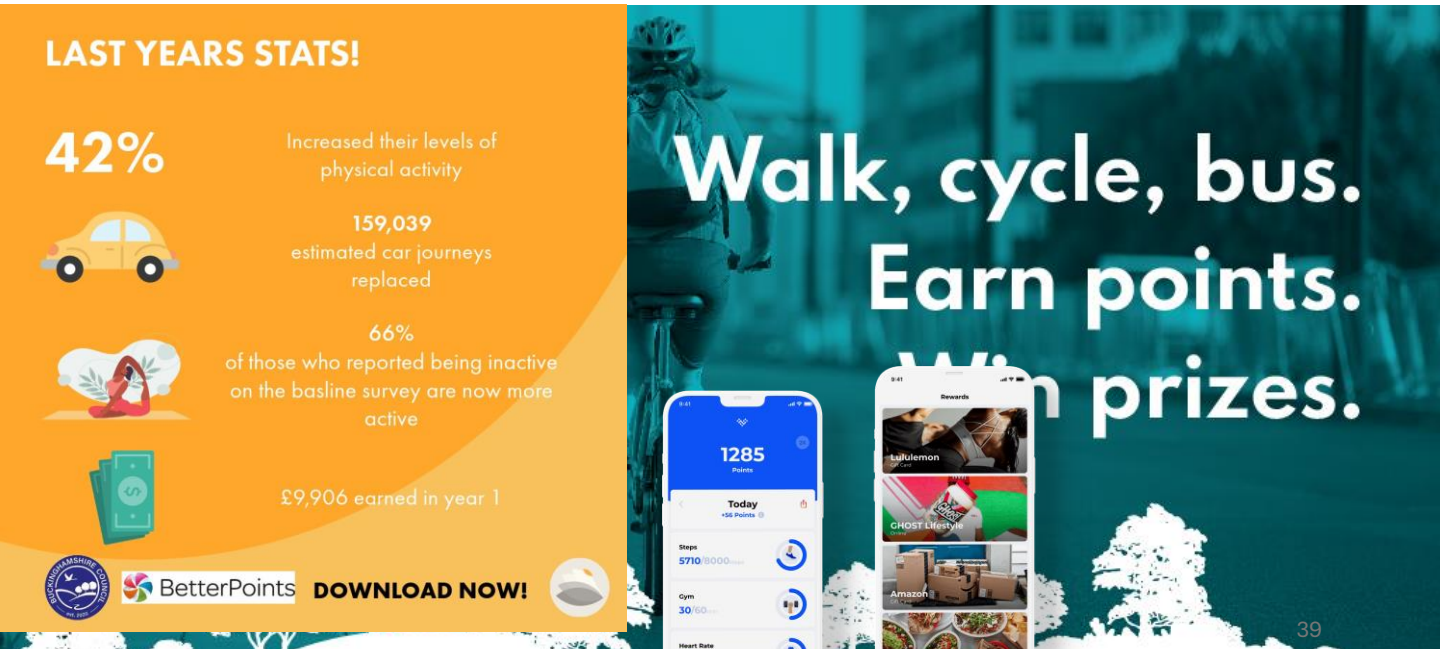
Our urban environment is almost completely electrified and covered by data networks, wai-ting to be hacked and gamified to increase physical activity of the citizens. Existing examp-les of gamified urban infrastructure are great creating fun and a better feeling of community, increasing physical activity and improving health. Still the impact of the solutions remain unsignificant in a larger scale as systematic approach to plan urban mobility and gamified urban infrastructure does not exists. Combining different data and involving different stakeholders could provide behavioural changes in everyday behaviour of the citizens. The technological tools exists, unlike enough know-how in urban planning and courage to change old power structures and priorities.

URBAN SCAVENGER GAMES / PROJECTS

A lot of different urban scavenger games, gamified applications with rewarding elements and smart mobility management app & projects exists all around the world. There are even some scavenger games platforms to build one's own urban scavenger hunt. Basically, every individual with a smart phone or a watch are potential digital urban gamers. Many of us take part regularly in physical activity challenges provided by smart watch and mobile phone manufacturers or platforms using the activity data.

Figure 14. *Examples of different scavenger hunt games, gamified apps, mobility apps & projects (Strava, Miles, Rydes, Scavenger Hunt Hidden Objects!, Geocaching, Actionbound)*

The research results show that gamification can change citizens' behaviour and provide positive results. Often gamified interventions (campaigns, projects) to increase smart mobility or physical activity have only short-term impacts on individuals' behaviour. Therefore, applications and projects combined with rewarding (ranking tables, badges, prices) system are emerging. Real life rewards are already being used in certain locations and organizations. The basic idea of these real-life rewarding applications is that by being physically active the user gains monetized benefits such as discounts.



Examples from the field of active travel gamification to leisure time activities are fewer, as commuting and active school trips are in the focal point of active travel development. Still some gamification examples do exist. Kilometer race (kilometrikisa.fi) has been a significant service for municipalities and companies in Finland to increase cycling. This nation-wide campaign has traditionally focused on commuting and school trips, but in 2023 and 2024 the campaign included also a specific campaign targeted for sports clubs to increase cycling to leisure time activities. The idea of the campaign is simple. Collect as many kilometers of cycling as possible during the campaign. Gamified elements included weekly leaderboards and prices for best sports clubs.

Same kind of gaming elements have been used in “Beat the streets”-initiative that encourages people to travel actively within their own community (beatthestreets.me). Beat the streets is a popular interactive game that turns whole communities into a giant activity competition. City or borough specific “Beat the streets”-initiatives have shown promising results. The findings suggest that turning a whole area of a town or city into an interactive game can be a promising approach to nudge people into travelling by foot, bicycle or wheelchair.

“It certainly was motivational for the kids, which then motivated me! Once they got into it, they wanted to walk everywhere and started to refuse to go to school in the car. So, we’re walking to school only now! .”
- Female (30-39 y.) participant of Beat the streets

Photo: Claudia Lorenzo Rubiera

HOW THIS CAN HELP TO REACH SIASP -PROJECT TARGETS?

Rewarding applications can be beneficial for children's and adolescents' leisure time active travel promotion efforts. Reward applications (functionalities: challenge – track – reward – report) already exists and could be easily adopted for sport and other leisure time activity offering organizations. It could even be used as a tool to achieve new partners and funding for the clubs.

4.2. Future of sports

Technology is poised to dramatically reshape the future of sports, influencing everything from how games are played to how they are experienced by fans. The rise of esports is already reshaping the sports landscape. Future developments might see more hybrid sports that combine physical exertion with digital gameplay. Games like drone racing, robot sports, and VR-based sports could gain prominence. Mixed reality sports is a combination of physical and virtual worlds. These could create entirely new forms of competition, such as HADO – AR dodgeball. HADO represents a broader trend towards integrating technology with traditional sports practices. While AR sports are still in their infancy compared to traditional sports, they are rapidly gaining popularity due to the advancements in AR technology.

Future sports might also involve athletes with enhanced physical capabilities (Bio Augmented Sports), leading to new kinds of competitions where augmented abilities are the norm. The future of sports will be a dynamic interplay between tradition and innovation, driven by technological advancements. As technology blurs the lines between the physical and digital, new sports will emerge that challenge our current understanding of athletic competition.

Many sports organizations are already integrating with Esports recognizing the growing popularity and profitability of the industry. Several professional teams have their own Esports teams competing in sport specific games (f.e. FIFA, NHL, NBA). Hybrid sports is appealing to younger generations familiar with the technology.

Urban environment will be even more appealing playground for the future of sports as the fusion of physical and digital experiences develop further, engaging both participants and spectators in a new, exiting way. Led lights games, holographic projected games, urban augmented reality parkour competitions, interactive floating sport arenas, urban drone races, mixed reality leagues in urban setting are few examples what is already happening in some extend but will emerge sooner or later as more mainstream sports. These digitally integrated sports will not only redefine how we think of athletic competition but also how we interact with our urban environment, making cities themselves part of the game.

HOW THIS CAN HELP TO REACH SIASP -PROJECT TARGETS?

Hybrid sports that combine physical exertion with digital gameplay will redefine also the spaces where hybrid sports will be happening. We are used to go to a certain location to be physically active. Technology is changing the concept of sport facilities. This is already happening through gaming in our living rooms, but urban spaces will be the next frontier. Technology can make future sports more social and inclusive. This requires more co-operation with urban planners, sports organizations and gaming industry. Nevertheless, safe, attractive and inclusive urban areas are still in the core of this development to happen.

5. RECOMMENDATIONS

The big question is, why aren't we planning, transforming, constructing and maintaining near-by living surroundings where active, social outdoor independent play is possible and attractive for every child? What are the main bottlenecks in a city that claims on strategic level to be a child-friendly, active and inclusive city for all residents?

Spurred by the Industrial revolution, cities have been designed as productivity machines that prioritize profit before people. This capitalistic approach has neglected vital life practices like play in the urban setting. For centuries, architectural design and the planning of urban spaces have been governed by adult perspectives and needs, with those of our children largely excluded. Adults do not want to give away the gained benefits and they stick to their old habits and power structures. We modern humans like to think that someone else is responsible for doing the needed change. *"I am in favor for the change for more active cities, but I cannot participate in it personally at the moment"* is a typical answer. Adults have always several excuses based on personal beliefs and preferences. Decision makers do not want to make decisions that undermine the gained benefits achieved by the residents. The grip of the old power and world order on urban development is still strong.

As a summary, bottlenecks presented in the picture below were identified why active lifestyle, sport facilities and services aren't accessible for all children and adolescents. These bottlenecks are identified based on experiences, discussions and literature review done during the SIASP-project.

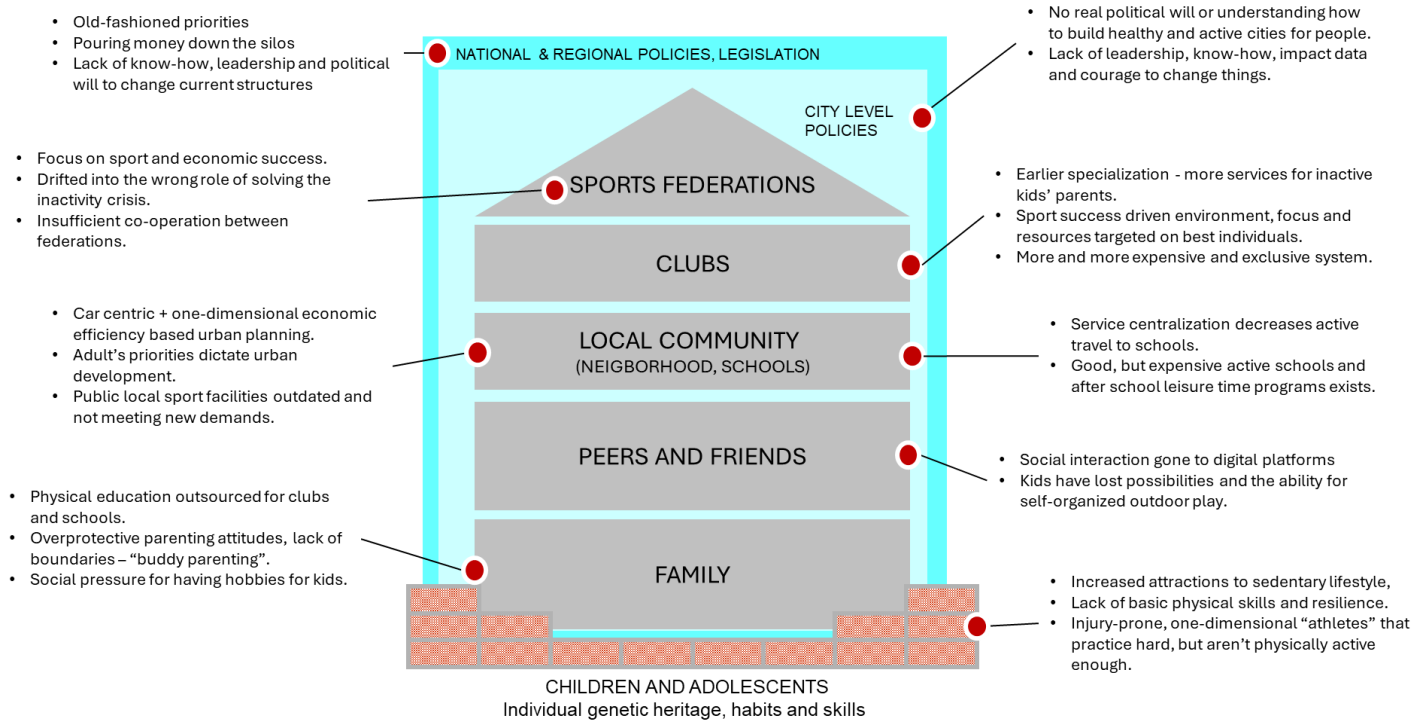
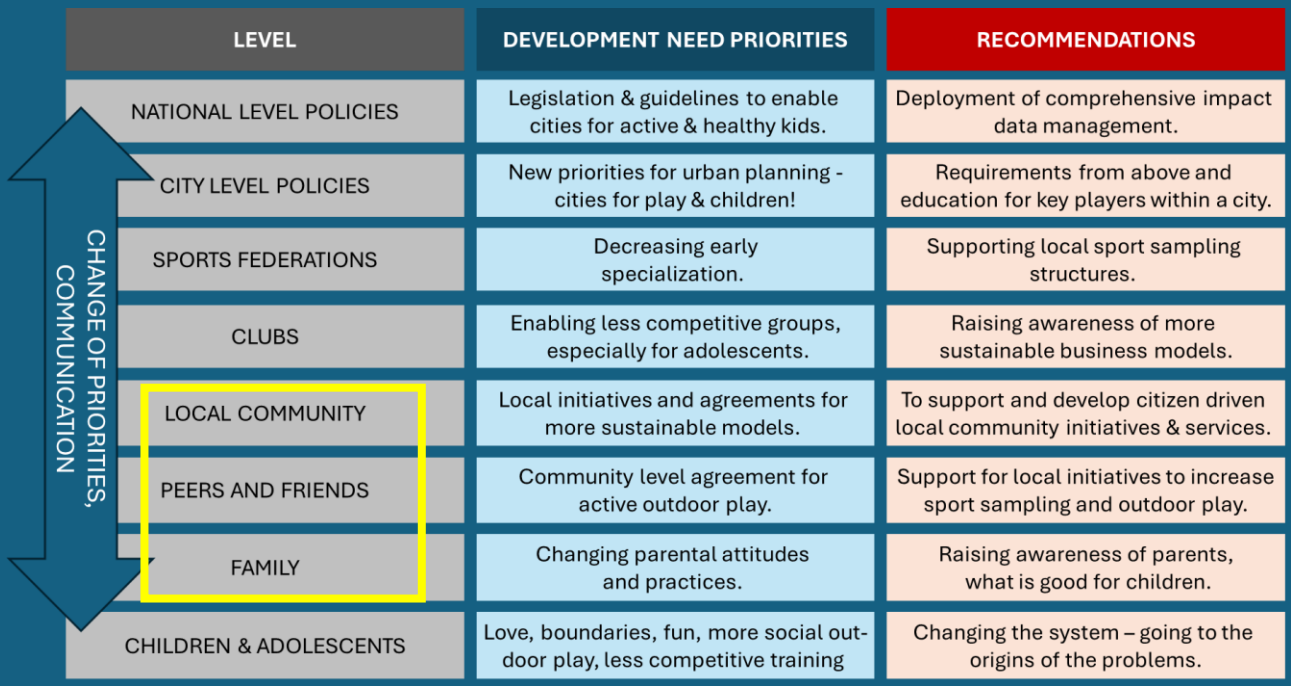


Figure 15. *SIASP –project's identified main bottlenecks for increased inactivity children and adolescents*

Based on findings of this study, the main recommended actions for different operating levels are as presented in the figure no:16. The key factor for change is community-level consensus of adults, which is then supported at different levels of public administration.



LEVEL	DEVELOPMENT NEED PRIORITIES	RECOMMENDATIONS
NATIONAL LEVEL POLICIES	Legislation & guidelines to enable cities for active & healthy kids.	Deployment of comprehensive impact data management.
CITY LEVEL POLICIES	New priorities for urban planning - cities for play & children!	Requirements from above and education for key players within a city.
SPORTS FEDERATIONS	Decreasing early specialization.	Supporting local sport sampling structures.
CLUBS	Enabling less competitive groups, especially for adolescents.	Raising awareness of more sustainable business models.
LOCAL COMMUNITY	Local initiatives and agreements for more sustainable models.	To support and develop citizen driven local community initiatives & services.
PEERS AND FRIENDS	Community level agreement for active outdoor play.	Support for local initiatives to increase sport sampling and outdoor play.
FAMILY	Changing parental attitudes and practices.	Raising awareness of parents, what is good for children.
CHILDREN & ADOLESCENTS	Love, boundaries, fun, more social outdoor play, less competitive training	Changing the system – going to the origins of the problems.

Figure 16. *Main development needs and recommendations for different levels*

1. National level policies

CURRENT MAIN BOTTLENECKS:
National legislative priorities are mostly from the last century still supporting to plan and build one dimensional economic efficiency and car dependency for urban areas. Creation of active and health-promoting cities is hampered by siloing and the pursuit of the interests of one's own administrative unit instead of more comprehensive impact. Bureaucratic administrative silos are pouring money down to fix the old broken engine, as changing the whole machine would be the cure. Lack of leadership and co-operation between administrative silos prevent comprehensive understanding what effects health and wellbeing of the citizens on everyday level. Lack of leadership and political will to challenge old power structures are also main drivers for sustaining urban environment that causes inactivity.

TOP RECOMMENDATIONS:
Legislation and national guidelines already contain many good frameworks. Still, the whole public sector lacks definitions how to measure them in different phases of build environment process. Science and research has proven how physical activity and comprehensive well-being of children and adolescents is affected by different urban environment factors. These factors should be acknowledged, measured, prioritized, required, reported and followed.

COMPREHENSIVE IMPACT DATA MANAGEMENT

2. City level policies

CURRENT MAIN BOTTLENECKS:
Cities have been designed as productivity machines that prioritize profit before people. Nice targets and strategy level slogans exists, but true political will or even understanding how to plan, build and maintain healthy and active cities for future generations is largely missing. Cities are in many cases financially struggling and trying to improve economic efficiency by centralizing services that distributed locally would benefit the comprehensive wellbeing of the citizens. Existing problems are patched up with expensive solutions that do not change the origins of the problem. One dimensional economical efficiency is still a strong argument for most decision made regarding urban structure and public services.

TOP RECOMMENDATIONS:
Cities will make good deeds to happen if the legislation requires them to do so. Cities can also be proactive in creating children, independent outdoor play and physical activity friendly urban environments. This requires education of different stakeholders within a city starting from the decision makers and key leaders of the cities.

REQUIREMENTS & EDUCATION

3. Sport federation level

CURRENT MAIN BOTTLENECKS:
Sport federations mostly exists for sport success of a few and economical gain. Despite good intensions the focus and economical input is targeted to produce top level athletes. The sport sector in general hasn't realized how the world around has changed and is mostly operating the same way as always before. Athlete data management is fragmented, not standardized and focuses on detecting athletes' maximum sport performance. Co-operation between different sports organization for the benefit of an individual athlete's comprehensive wellbeing is coach / family dependent, not a systematic model for operations. Support from federation level to club level favors sport success driven clubs.

TOP RECOMMENDATIONS:
Guidance and financial aid to clubs should favor sport sampling of young children, not early specialization and competitiveness at young age. Sport federation level organizations should come out of their own bubble - sport is not an island in the society. Definition of the most important metrics to evaluate clubs should serve kid's overall growth, not solely sportive ability or success.

DECREASING EARLY SPECIALIZATION

4. Club level

CURRENT MAIN BOTTLENECKS:
Support and guidance from the sport federation level encourages clubs to increase the number of licensed members and number of sport specific practice events. Children's and adolescents' ability to recover from intensive training has decreased over the years. sports clubs' financial interest is to have more events and therefore higher participation fees, since more money is needed to cover costs of professional coaches and higher-level facilities. Many sports become exclusive as competitiveness becomes the major driver and expenses to participate become too high. No "saving net" or alternatives are being offered for those who can't afford participation, do not meet the sportive standards or are not willing to specialize at early age. Early specialization and increasing number of sport specific high intensity trainings produce injury prone young citizens with twisted thinking model of physical activity and active lifestyle.

TOP RECOMMENDATIONS:
Sports clubs are losing 60-70 percent of their potential target group in every age group. This is not financially nor sportive success wise sustainable operation model. The focus should be in sport sampling and in fun activities at early ages. Ideally this is not sports club's task at all. Sports clubs should be able to concentrate on what they do best, and what is their original mission. Physical activity education shouldn't be outsourced for sports organizations, as they do not have the means nor will to do it inclusively.

AWARENESS OF SUSTAINABLE BUSINESS MODELS

5. Local community level

CURRENT MAIN BOTTLENECKS:
Old priorities in urban planning has neglected vital life practices like play in the urban setting. Children's and adolescents' possibilities for independent outdoor and nature play are rarer due urbanization, car centric and one-dimensional economic efficiency based urban planning. Adult's priorities dictate urban development, comfort and easy lifestyle being often key factors to oppose changes in existing priorities, practices and planning procedures. Local public sport facilities are outdated and not matching the attractiveness of digitalized entertainment services. Centralization of services increase individual car usage and decreases active travel on school and leisure time activity trips. After school sport programs are partly effective but also expensive. Ideally the parents should carry the responsibility for physical education of their children.

RECOMMENDATIONS:
Parents together with local stakeholders should be supported to make sport sampling with peers possible in their own neighborhood (citizen driven sport sampling initiatives). City level policies should prioritize and support this activity. A model combining Dutch "community coaches" (sportindebuurt.nl) idea, Lähirähinä grassroot sport model and Icelandic parental joint decision example could be an inexpensive and effective solution. Digital urban gamification offers new solutions but needs to be invested at different levels.

SUPPORT CITIZEN DRIVEN MODELS

Photo: Rantapohja

6. Family

CURRENT MAIN BOTTLENECKS:
Many parents have outsourced the physical education of their children for clubs and schools. Overprotective parenting attitudes hamper children's personal growth. Also, the lack of boundaries - so called "buddy parenting" – has decreased mental and physical resilience of kids. Most parents do not know what active / sporty lifestyle really is as social pressure is high for having hobbies for kids. Hectic lifestyle, parental attitudes, fear of crime and accidents, tight timetables and long distances favor passive travel for sports practices.

TOP RECOMMENDATIONS:
Children and adolescents learn habits, values and mindsets from their parents. To change everyday behavior and existing mindset of parents is a crucial step to change collective behavior of their offsprings. Waiting for the society, or "somebody else than me" to fix things is ineffective, time consuming and expensive. Therefore, parental education initiatives and programs are needed to facilitate community level consensus for a change.

EDUCATION OF PARENTS

7. Children and adolescents

CURRENT MAIN BOTTLENECKS:
Children are innocent for the current problems that physical inactivity and sedentary lifestyle causes. Adults are the ones to blame. Our own actions - or inactions - have increased children's attractions to sedentary lifestyle, caused lack of basic endurance and skills, taught unrealistic role models and allowed kids to be exposed for social media. The existing sport system produces outcasts and one dimensional and injury prone "athletes" that practice sports but aren't physically active independently. Due to our own ignorance, we have a generation in our hands that lacks physical and mental resilience.

RECOMMENDATIONS:
Hiring more coaches or health care professionals for kids is not the answer to the problems. We need to understand the origins of the problems in our society. Our current lifestyle that emphasis performance, personal gain and success over the benefit of community and our planet takes us further away from social and physical wellbeing. Kids need to be kids, be active with their parents and peers in near-by areas, and they need love and boundaries. Not to learn co-operative and communication skills in an adult created competitive system at the age of 6.

ADULT'S RESPONSIBILITY

WINTER CYCLING FEDERATION

Photo: Metsähallitus

APPENDIX 1. REFERENCES

1. Global Matrix 4.0 Physical Activity Report Card Grades for Children and Adolescents: Results and Analyses From 57 Countries, Journal of physical activity and health, published 22.10.2022
2. Healthy Places - Transportation HIA Toolkit - Strategies: Promote Active Transportation. https://www.cdc.gov/healthyplaces/transportation/promote_strategy.htm.
3. Schönbach DMI, Altenburg TM, Marques A, Chinapaw MJM, Demetriou Y. Strategies and effects of school-based interventions to promote active school transportation by bicycle among children and adolescents: a systematic review. Int J Behav Nutr Phys Act. 2020
4. Salvo D, Garcia L, Reis RS, et al. Physical activity promotion and the united nations sustainable development goals: building synergies to maximize impact. J Phys Act Health. 2021
5. Lee E-Y, de Lannoy L, Li L, et al. Play, Learn, and Teach Outdoors—Network (PLaTO-Net): terminology, taxonomy, and ontology. Int J Behav Nutr Phys Act. 2022
6. Truelove S, Vanderloo LM, Tucker P. Defining and measuring active play among young children: a systematic review. J Phys Act Health. 2017
7. Salmon J, Timperio A. Prevalence, trends and environmental influences on child and youth physical activity. Med Sport Sci. 2007
8. Kärmeniemi M, Lankila T, Ikäheimo T, Koivumaa-Honkanen H, Korpelainen R. The built environment as a determinant of physical activity: a systematic review of longitudinal studies and natural experiments. Ann Behav Med. 2018
9. Cerin E, Sallis JF, Salvo D, et al. Determining thresholds for spatial urban design and transport features that support walking to create healthy and sustainable cities: findings from the IPEN Adult study. Lancet Glob Health. 2022
10. Global status report on physical activity 2022, World Health Organization, 2022
11. Combinations of Physical Activity, Sedentary Behavior, and Sleep Duration and Their Associations With Physical, Psychological, and Educational Outcomes in Children and Adolescents: A Systematic Review, American Journal of Epidemiology, Volume 192, Issue 4, April 2023
12. Kolu, P., Kari, J. T., Raitanen, J., Sievänen, H., Tokola, K., Havas, E., Pehkonen, J., Tammelin, T. H., Pahkala, K., Hutri-Kähönen, N., Raitakari, O. T., & Vasankari, T. (2022). Economic burden of low physical activity and high sedentary behaviour in Finland. Journal of Epidemiology and Community Health, 76(7), 677-684
13. Kari JT, Nerg I, Huikari S, Leinonen A-M, Nurkkala M, Farrahi V, Korpelainen R, Korhonen M. 2022. The individual-level productivity costs of physical inactivity. Medicine & Science in Sports & Exercise. 55(2); 255–263
14. Korpinen, A.: Travel Choice Behaviour in Sports Activities Trips, Master of Science Thesis, 121 pages, 31 Appendix pages, Tampere University of Technology, 2013
15. Perälä, T. Reducing car dependency in sport activity trips by changing the sport service network, Traficom, 2018
16. Appelhans B.M., Li H. Organized sports and unstructured active play as physical activity sources in children from low-income Chicago households. Pediatr. Exerc. Sci. 2016;28:381–387. doi: 10.1123/pes.2015-0249.
17. Li M., Dibley M.J., Sibbritt D., Yan H. Factors associated with adolescents' physical inactivity in Xi'an City, China. Med. Sci. Sports Exerc. 2006;38:2075–2085. doi: 10.1249/01.mss.0000233802.54529.87.
18. Bergh I.H., Van Stralen M.M., Grydeland M., Bjelland M., Lien N., Andersen L.F., Anderssen S.A., Ommundsen Y. Exploring mediators of accelerometer assessed physical activity in young adolescents in the health in adolescents study—A group randomized controlled trial. BMC Public Health. 2012;12:1. doi: 10.1186/1471-2458-12-814.

APPENDIX 1. REFERENCES

19. Trang N.H.H.D., Hong T.K., Dibley M.J., Sibbritt D.W. Factors associated with physical inactivity in adolescents in Ho Chi Minh City, Vietnam. Med. Sci. Sports Exerc. 2009;41:1374–1383. doi: 10.1249/MSS.0b013e31819c0dd3.
20. Gale, T. Haszard, J. Scott, T. Peddie, M.The Impact of Organised Sport, Physical Education and Active Commuting on Physical Activity in a Sample of New Zealand Adolescent Females, Environ. Res. Public Health 2021
21. Smith, L. Aggio, D. Hamer, M. Active travel to non-school destinations but not to school is associated with higher physical activity levels in an ethnically diverse sample of inner-city schoolchildren, BMC Public Health 17, article no:13, 2017
22. The Finnish School-aged Physical Activity (F-SPA, LIITU in Finnish) monitoring study, Finnish Government, 2022
23. Gössling, S. The lifetime costs of driving a car. Ecological Economics, Volume 194, 2022
24. Bunds,K. Kanters, M. Venditti, R. Rajagopalan, N. Casper, J. Carlto, T., - Organized youth sports and commuting behavior: The environmental impact of decentralized community sport facilities, Transportation Research, 2018.
25. Bell, D. DiStefano, L. Pandya, N. McGuine, T. The Public Health Consequences of Sport Specialization, Journal of Athletic training, Volume 54, Issue 10, 2019.
26. Kisser, B. Bauer, B. The Burden of Sport Injuries in the European Union, Europen network for sport injury prevention, 2012, ISBN 978-3-7070-0108-2
27. Lindner, J. The Most Surprising Youth Sports Injury Statistics And Trends in 2024 at https://gitnux.org/youth-sports-injury-statistics/
28. Räisänen, A. et al. Prevalence of adolescent physical activity-related injuries in sports, leisure time, and school: the National Physical Activity Behaviour Study for children and Adolescents. BMC Musculoskeletal Disorders volume 19, Article number: 58 (2018)
29. Myer GD, Jayanthi N, DiFiori JP, et al. Sports specialization, part II: alternative solutions to early sport specialization in youth athletes. Sports Health. 2016;8:65-73.
30. Myer GD, Sugimoto D, Thomas S, Hewett TE. The influence of age on the effectiveness of neuromuscular training to reduce anterior cruciate ligament injury in female athletes: a meta-analysis. Am J Sports Med. 2012;41:203-215.
31. Li, L. Moosbrugger, M. Correlations between Physical Activity Participation and the Environment in Children and Adolescents: A Systematic Review and Meta-Analysis Using Ecological Frameworks, International Journal of Environmental Research and Public Health, published online, 28 Aug. 2021
32. Promoting activity participation and well-being among children and adolescents: a systematic review of neighborhood built-environment determinants
33. Relationship Between the Physical Environment and Physical Activity Levels in Preschool Children: A Systematic Review
34. The built and social neighborhood environment and child obesity: A systematic review of longitudinal studies
35. The role of the built environment in promoting movement and physical activity across the lifespan: Implications for public health
36. Factors That Influence Participation in Physical Activity in School-Aged Children and Adolescents: A Systematic Review from the Social Ecological Model Perspective
37. An ecosystem service perspective on urban nature, physical activity, and health
38. Neighbourhoods with no space to play, walk or play sport: how the postcode affects children and young people's health

APPENDIX 1. REFERENCES

39. Children's physical activity and active travel: a cross-sectional study of activity spaces, sociodemographic and neighborhood associations
40. Built Environment, Physical Activity, and Obesity: Findings from the International Physical Activity and Environment Network (IPEN) Adult Study
41. Nyman, J. The effects of the everyday environment on the activity, well-being, and health of children, Turku University, Thesis, 2020.
42. Erdal, K. The Adulteration of Children's Sports: Waning Health and Well-Being in the age of organized play, Lexington Books, 2018, ISBN 978-1-4985-7152-4
43. https://www.mobillab.wien
44. Open streets for ever, the case of permanent 24/7 open streets, published October 12th 2021 at https://transalt.org/open-streets-forever-nyc
45. Growing up in Hackney, Child-Friendly Places, Supplementary Planning Document, London Borough of Hackney, 2021
46. Krysiak, N. Designing Child-Friendly High Density Neighbourhoods - Exploring best practice for designing child-friendly high density neighbourhoods, Cities for play, 2019
47. Active Design, creating active environments through planning and design, Sport England, 2023
48. Cavill, N. et al. Active Travel & Physical Activity, Evidence Review, Sport England, 2019.
49. Fyhri, A. Hjorthol, R. Children's independent mobility to school, friends and leisure activities, Journal of Transport Geography, Volume 17, Issue 5, 2009
50. Stark, J.et al. The influence of external factors on children's travel mode: A comparison of school trips and non-school trips, Journal of Transport Geography, Volume 68, April 2018, Pages 55-66
51. Johansson, M. Environment and parental factors as determinants of mode for children's leisure travel, Journal of Environmental Psychology, Volume 26, Issue 2, June 2006, Pages 156-169
52. Marzi, I. et al. Adolescents' travel behavior in Germany: Investigating transport mode choice considering destination, travel distance, and urbanization, Journal of Transport Geography, Volume 112, October 2023, 103694
53. Laxdal, A. Johansen, B. Towards More Sustainable Sports: Analyzing the Travel Behavior of Adolescent Soccer Players in Southern Norway, July 2022, International Journal of Environmental Research and Public Health (IJERPH) 19(15).
54. Shaw, B. Bicket, M. Elliot, B. Fagan-Watson, B. Mocca, E. Hilmann, M. Children's Independent Mobility: an international comparison and recommendations for action, Policy Studies Institute, 2015
55. Silonsaari, J. Simula, M. te Brömmelstroet, M. From intensive car-parenting to enabling childhood velonomy? Explaining parents' representations of children's leisure mobilities. Mobilities 19/2024, published online: 15 May 2023
56. https://planetyouth.org/the-icelandic-prevention-model/, visited 14.05.2024
57. Launonen, L. Pulkkinen L. Eheytetty koulupäivä, Lapsilähtöinen näkökulma koulupäivän uudistamiseen, ISBN: 9513744477, Edita, 2005
58. https://liikkuvakoulu.fi/en/home/, visited 14.05.2024
59. https://harrastamisensuomenmalli.fi/en/, visited 14.05.2024
60. Prevention in Iceland – Success and Development. Presentation by Rafn M Jonsson, 20.3.2018 at CNAPA
61. Handbook: Best Practices on Sport for Social Inclusion and Employability for At-Risk Youth and Migrant and Refugee Youth in Europe, Barca Foundation, Danish Refugee Council, Organization Earth, European Football for Development Network, and Cooperativa Prospettiva
62. DiStefano LJ, Beltz EM, Root HJ, et al. Sport sampling is associated with improved landing technique in youth athletes. Sports Health. 2018;10 (2):160–168.
63. Myer GD, Jayanthi N, Difiori JP, et al. Sport specialization, part I: does early sports specialization increase negative outcomes and reduce the opportunity for success in young athletes? Sports Health. 2015;7 (5):437–442.
64. Casey M. Doherty A. Elliot SK. Norman L. Engaging Women and Girls in Community Sport: Building an Equitable and Inclusive Future, Frontiers in Sports and Active Living, 2022, 4:947626.
65. Van Der Veken K. Laurewier E. Willems SJ. How community sport programs may improve the health of vulnerable population groups: a program theory. International Journal for Equity in Health 19/2020.
66. Schaillée H, Haudenhuyse R, Bradt L. Community sport and social inclusion: international perspectives. Sport Soc. 2019;22(6):885–96.

APPENDIX 1. REFERENCES

67. Marzi I. Demetriou Y. Reimers AK. Social and physical environmental correlates of independent mobility in children: a systematic review taking sex/gender differences into account, International Journal of Health Geometrics, Volume 17, article number 24, 2018.
68. Sabbe S, Bradt L, Spaaij R, Roose R. Community sport and social cohesion: in search of the practical understandings of community sport practitioners in Flanders, Community Development Journal, 2018
69. Insight into action – The lessons from the doorstep sport club programme 2013-2017, StreetGames, 2018
70. Schijivens, L. Van Aggelen W. Kronenburg, K. The unique role of community sport motivators in 'connecting the dots' in the Netherlands. The European Journal of Public Health, September 2023.
71. Globall wellness economy monitor 2023. Global Wellness Institute, 2023.
72. Gattupalli, A. Placemaking through Play: Designing for Urban Enjoyment, www.archdaily.com, published on 22.7.2022
73. Aspen Institute, 2022 Project Play Impact report, downloaded at projectplay.org
74. K. Mäkelä, S. Kokko, L. Kannas, J. Villberg, T. Vasankari, J. O. Heinonen, K. Savonen, L. Alanko, R. Korpelainen, H. Selänne, J. Parkkari. Physical Activity, Screen Time and Sleep among Youth Participating and Non-Participating in Organized Sports—The Finnish Health Promoting Sports Club (FHPSC) Study, Advances in Physical Education > Vol.6 No.4, November 2016
75. Hakkarainen, H., Harkonen, A., Niemi-Nikkola, K., Maenpaa, P., Potinkara, P., Kujala, A., Jaakkola, T. & Kantosalo, K. (2008). Urheilevien lasten ja nuorten fyysis-motorinen harjoittelu. Selvitysraportti. [Report on Physiological and Motor Training of Sporting Children and Adolescents]. Helsinki: SLU-Paino.
76. F.Anselmi, L. Cavigli, A. Pagliaro, S. Valente, F. Valentini, M. Cameli, M. Focardi, N. Mochi, P. Dendale, D. Hansen, M. Bonifazi, M. Halle, F. D'Ascenzi. The importance of ventilatory thresholds to define aerobic exercise intensity in cardiac patients and healthy subjects. Scand J Med Sci Sports 2021 Jul 5;31(9):1796–1808
77. Ailovuo J. 2024, The effect of lactate threshold levels and sport training period on the maximum oxygen uptake capacity of a young football player. Faculty of physical education, University of Jyväskylä.

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