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NEW CHALLENGES FOR XXI CENTURY CITIES

Global warming, ageing of population, reduction of energy consumption, immigration flows, optimization of land use, technological innovation

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TeMA Journal was established with the primary objective of fostering and strengthening the integration between urban transformation studies and those focused on mobility governance, in all their aspects, with a view to environmental sustainability. The three issues of the 2024 volume of TeMA Journal propose articles that deal the effects of global warming, the ageing of population, the reduction of energy consumption from fossil fuels, the immigration flows from disadvantaged regions, the technological innovation and the optimization of land use.

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The cover image shows older people climbing Via Raffaele Morghen's stairs in Naples (Source: TeMA Journal Editorial Staff).

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REVIEW NOTES – Urban strategies, programmes and tools

Strategies and instruments for active mobility: comparison of international experiences

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Abstract
Starting from the relationship between urban planning and mobility management, TeMA has gradually expanded the view of the covered topics, always remaining in the groove of rigorous scientific in-depth analysis. This section of the Journal, Review Notes, is the expression of continuously updating emerging topics concerning relationships between urban planning, mobility and environment, through a collection of short scientific papers written by young researchers. The Review Notes are made of four parts. Each section examines a specific aspect of the broader information storage within the main interests of TeMA Journal. In particular, the Urban strategies, programmers and tools section presents the different strategies and tools for active mobility implemented internationally.
The contribution aims to address the issue of active mobility in the context of sustainable urban planning on a global scale. In this direction, this review provides an overview of strategies and tools that promote active mobility options in urban areas and identify best practices from cities around the world. In recent sustainable urban mobility policies, at all levels of governance, the focus has been on active mobility identified as one of the key components for the transition to a neutral climate and an inclusive urban future, more resilient and safer.

Keywords
Walking; Cycling; Urban strategies; Urban tool

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1. Active mobility in the international agendas

By the 1960s and 1970s, the car-oriented urban development radically changed the way cities were built and functioned. Modern cities face a series of challenges that have their roots in their past and in the ever-changing models of urban development. A striking example is the clear functional separation within urban areas, which implies the need to travel considerable distances to move from one area to another, making car use a mandatory choice rather than an optional option.

In modern cities, the car reigns supreme. Much of the urban space is devoted to roads, car parks and car related infrastructure, while pedestrians and cyclists are relegated to the margins. Urban expansion, driven by the logic of private mobility, has contributed to increasing traffic and pollution, creating an inhospitable and uninhabitable urban environment (D'Amico, 2023; Cecchini, 2023).

In addition to depriving people of space, urban car-oriented mobility has generated a number of other negative effects such as the expensive use of energy, excess GHG (greenhouse gas emissions) and air pollution, high social costs and harmful health consequences (Walk'n'Roll Cities Guidebook, 2022).

The pandemic and other recent events have strongly highlighted the importance of decarbonized, resilient and sustainable transport and mobility systems. These are significant elements to reduce the impact of shocks, accelerate recovery and represent added value for the community (SLOCAT, 2023).

Cities are significant hubs of economic and social activity. The synergy between the quality infrastructural system and the correct planning and design of urban space is the pillar on which to build resilient and sustainable cities (Carra et al., 2022). The urgent need to make cities more sustainable has also fueled a line of studies on "urban transformation", which investigates possible strategies to achieve this objective (Gargiulo & Zucaro, 2023).

In the urban context, mobility takes on a role of primary importance, influencing multiple aspects of daily life. Mobility fulfils a basic need in enabling people to integrate into society and the labour market, encouraging for example tourism and commerce.

Urban mobility represents a fundamental enabling factor for economic growth, social inclusion and urban sustainability. However, although it offers many advantages, mobility is not without costs for our society. Among the negative effects are greenhouse gas emissions, air, noise and water pollution, but also accidents and road crashes, congestion, and biodiversity loss. This has significant effects on health, well-being and quality of life. For these reasons, considerable efforts have been made in recent years and international political measures have been taken to address and resolve the problems of cities connected to mobility.

Greenhouse gas emissions from the transport sector have increased over time and are now the biggest challenge facing cities around the world and have become a central factor in international urban agendas.

The 28th United Nations Climate Change Conference (COP28) drew the spotlight on the implementation of international climate commitments, "signalling the beginning of the end of the fossil fuel era" (UN Climate Change Quarterly Report, 2024). Promoting active mobility can be one of the strategies that cities can encourage to reduce emissions and adapt to climate change. Enabling more people to walk and cycle safely is a fast, economical and reliable way to reduce transport-related emissions, with a potential reduction of up to 50% (PATH-UNFCCC, 2023).

Urban mobility is one of the dimensions covered by Sustainable Development Goal 11 on sustainable cities and communities and the New Urban Agenda. These global framework documents stress the importance of shifting to more sustainable and healthy means of transport, including active travel and they are a key reference for multi-level governance of decision-makers and stakeholders to guide urban policy and the promotion of decarbonized mobility, resilient, and sustainable.

The practice of walking and cycling fits perfectly into several points of the Global Agenda (Agenda 2030), although the concept of active travel and its benefits are not explicitly mentioned. The connection between the benefits of active mobility and its impact on health objectives (SDG Goal 3: Ensure healthy lives and

promote well-being for all at all ages) is clear, since, in a community, as the adoption of active mobility, an improvement in public health is observed, both in terms of increased physical activity and reduction of air pollution. Walking and cycling also have a clear link with SDGS 9 and 13: the first, (SDG Goal 9: Building resilient infrastructure, promoting inclusive and sustainable industrialization and promoting innovation) connects to active mobility in creating better accessibility to opportunities and services for all, exploiting technological innovations; the second (SDG Goal 13: Taking urgent action to combat climate change and its impacts) sees active mobility as a driver to encourage car use and negative externalities caused to environmental damage.

Urban mobility can significantly improve life in cities, not only by reducing the considerable greenhouse gas emissions it produces, but also by making it cleaner, less congested and safer. The World Health Organization and the United Nations Regional Commissions have developed the "Global Plan for the Decade of Action for Road Safety 2021-2030" (Global Plan, 2021), as a guidance document supporting the implementation of road safety objectives, including the promotion of active and safe transport modes. The Global Plan stresses that land use planning must create infrastructure and services that favor the choice of alternative and sustainable transport modes, particularly the healthiest and cleanest modes of transport but often most neglected: walking, cycling and public transport.

In line with recent related international agreements signed by the EU, the Partnership for Urban Mobility (PUM), which delves into one of the fourteen priority themes agreed by The Urban Agenda for the EU (2016), has developed the Final Action Plan of the Urban Mobility Partnership (EC Action Plan, 2018) which proposes actions to address the challenges of urban mobility and related urban development issues. "Soft mobility" is proposed in the Action Plan in two of the nine priority actions (ACTION n° 5 – Developing guidelines on infrastructure for active mobility supported by relevant funding; ACTION n° 6 – Promoting sustainable and active mobility behaviour) to encourage sustainable and resilient urban mobility, in which cycling and walking must be taken seriously into account in urban mobility policies, also considering the needs of vulnerable users and citizens with reduced mobility (children, elderly, citizens with disabilities, etc.).

Active mobility can be a driver for building urban transport systems that are economically sound, environmentally friendly, and socially inclusive. Indeed, in recent years efforts to integrate transport, health and environment activities are evident and, in the field of public health promotion, active travel modes are recognised as a promising strategy for increasing physical activity levels and for preventing noncommunicable diseases (WHO Regional Office for Europe, 2022). This positive trend is in line with the growing scientific consensus on the benefits of walking and cycling for health and the environment (Gerike et al., 2019; Cirianni et al., 2022).

2. What cities can do?

Active travel modes have, for too long and in most countries around the world, received little recognition in official policy and planning practice. Fortunately, this is no longer the case today, and walking and cycling are modes of transport integrated into planning frameworks and adopted for the advantages they bring to the urban context and to community.

Transport decisions are the responsibility of most cities, and city leaders now have a wider range of mobility options than in the past. A future in which most citizens travel on foot, by bicycle or by public transport is within reach of all cities that can learn from the lessons and experience of others.

In cities, an antidote to the car-oriented urban vision can be created by combining a series of actions and interventions, adapting them to specific local circumstances. EU Urban Mobility Observatory promoted the "Walk'n'Roll initiative" where 28 European cities of different sizes (from towns to metropolises), together with the URBACT Knowledge Hub, explore common visions and practical interventions through different workshops

and events. As part of the project, the "Walk'n'Roll Cities Guidebook" (Walk'n'Roll Cities Guidebook, 2022) was drawn up which provides an overview of solutions and actions that cities can undertake, including:

- creating pedestrian-only zones, co-existence streets and allocating at least 50% of the street space to people, not cars, with wide sidewalks, narrow lanes, and physical traffic calming;
- introduce partial or total restrictions on car circulation in some urban areas, recognizing occasional limitations (delivery, loading-unloading, transport of people with mobility difficulties, etc.);
- use strategic parking management to regulate traffic flow and dissuade people from traveling to certain neighborhoods;
- apply speed limits, to make walking and cycling trips more time-competitive with driving and brake the exclusive use of the car.

The creation of a network of "quiet spaces", i.e. a coherent system of squares and streets with pedestrian priority that spreads throughout the city, makes it possible to promote active mobility and transform the image of the city, for the benefit of the environment and public health. This requires the construction or adaptation of existing infrastructure and investments aimed at integrating "soft mobility" with micromobility and other sustainable transport modes, such as shared bicycles, electric mobility and public transport services.

Achieving a transition towards sustainable transport and mobility systems requires collective and synergistic action that sees the involvement of all stakeholders, both public and private, also actively involving citizens and associations. The participatory planning approach is a first step that can be implemented.

C40 Cities Climate Leadership Group, a global network of mayors of the world's leading cities that are united in action to confront the climate crisis, state that a priority action that cities must take today is "to implement transit-oriented development".

These are human-scale urban planning policies that aim to reduce travel distances, encouraging dense and mixed-use development (C40, 2019). The aim is to transform public space for the benefit of citizens, making it easier for them to access everything they need with a short walk or bike ride from home.

Walkability goes beyond the simple sidewalk, just as cyclability is not just a cycle path, it is in fact a complex infrastructural system that requires adequate, efficient and attentive urban planning in all aspects.

To encourage people to travel by foot or bike, cities need to rebalance the distribution towards people walking and cycling, for example, to make walking an attractive option, accessible and comfortable, footpaths need to be in "good condition and sufficiently wide" (ITDP, 2018). Intersections should be designed to maximize people's safety with adequate traffic signals that give priority to those traveling on foot or by bicycle. To improve cyclability, there should be an exclusive cycle structure, separated from car traffic with visible and adequate racks for the rental and parking of bicycles.

3. Best practices and initiatives around the world

Today, planning practice has accumulated a rich portfolio of measures ready to be considered for inspiration, adaptation and possible application in every city.

Concrete experience shows that the transition to more active mobility triggers positive effects and a number of benefits also in terms of resilience, social and environmental. Resilience to climate scenarios should be integrated right from the design phase of new infrastructures and programs for active mobility, but can also be implemented in existing ones.

In a growing number of cities, strategies adopted at the local level to promote sustainable transport modes and reduce the negative impacts of urban mobility have been encapsulated and expanded into Sustainable Urban Mobility Plans (SUMPs). This measure, introduced in Europe with "The urban mobility package of 2013" (EU, 2023), is conceived as a strategic framework designed to improve the quality of life by addressing the main challenges related to urban transport. Similarly, Sustainable Urban Logistics Plans (SULP) integrate city-level logistics into urban mobility planning, aiming for a more sustainable freight transport system. At the

national scale, National Urban Mobility Policies and Investment Programmes (NUMP) represent the strategic frameworks adopted to respond to the country's sustainable mobility needs (SLOCAT, 2023).
Policies relating to walking and cycling are increasingly difficult because active mobility is also recognized as a solution to mitigate climate change, reduce emissions, bring benefits to public health and create vibrant and inclusive societies.
The Partnership for Active Travel and Health (PATH, 2023) coordinated an analysis of Nationally Determined Contributions (NDCs) - result of the 2015 Paris Agreement - and other national walking and cycling policies and strategies in the 197 countries of the "UN Framework Convention on Climate Change" (UNFCCC) from February to September 2023. The report highlighted that 111 UNFCCC countries (57%) have a national policy that addresses walking and that 44 UNFCCC countries (22%) have a national policy that supports cycling. However, only 8 countries have connected their commitments to active travel in their NDCs and national policies for walking and cycling: apart from Singapore the others are all low- or middle-income countries and include Bangladesh, Bhutan, Colombia, Costa Rica, Ethiopia, Rwanda and Uganda.
The choices made by decision-makers influence the use of urban spaces in cities and can promote large-scale changes that lead to a clean transportation revolution with fewer cars, more electric vehicle fleets and bike lanes. Several cities around the world have taken bold and ambitious actions on active mobility and this contribution aims to highlight and share some of the best policies, projects and approaches implemented in various urban contexts, on a global scale.

3.1 Africa overview

The Africa region comprises 54 countries spanning from Northern Africa to Sub-Saharan Africa. The region is the world's least urbanised, yet it has the highest rate of urbanisation globally, at 3.5% per year (APC, 2020). The continent's urban population share is projected to grow from 47% in 2022 to 60% in 2050 (SSATP, 2022), when african cities are projected to be home to an additional 300 million urban residents, of which the vast majority are expected to rely on walking, cycling and public transport for their daily journeys.
Transport is key for promoting sustainable economic growth in the region and for addressing a complex set of challenges related to climate change and the demand for mobility. The main challenges facing the transport sector in Africa include a lack of integrated planning across various transport modes, insufficient data on public transport systems, poor transport infrastructure and access, and the highest road fatality rates globally.
Actually in Africa, many residents depend on walking and cycling as their primary means of transport. Up to 78% of people walk for travel every day to access healthcare, education, shops, jobs and public transport – often because they have no other choice (UNEP & UN-Habitat, 2022).
The lack of adequate infrastructure has a significant impact on people's choice of mode. As many as 95% of Africa's roads fail to provide an acceptable level of service for pedestrians, and 93% fail to provide an acceptable level of service for cyclists (SLOCAT, 2023).
However, in 2019, 19 (35%) of the 54 countries in Africa were reported to have a walking and cycling policy (UNEP & UN-Habitat, 2022). For example, in 2020, Addis Ababa (Ethiopia) launched a 10-year Non Motorised Transport (NMT) Strategy aimed at developing a comprehensive network of high-quality walking and cycling facilities to address the growing demand for better access to the city and has drawn up a three-year NMT implementation plan outlining immediate actions, objectives, indicators and key objectives to improve the active transport environment from 2022 to 2024 (SLOCAT, 2023).
In 2021, the African Network for Walking and Cycling (ANWAC) was created as a space for organisations and experts to convene and collaborate under the auspices of a common goal: making the life of people who walk and cycle in African countries safer, healthier, and more comfortable through combined action, expertise and influence (UNEP & UN-Habitat, 2022). Rapidly rising urbanisation and motorisation rates have prompted an

urgent response to Africa's growing transport needs, including through the development of sustainable urban mobility plans (SUMPs) and National Urban Mobility Plans (NUMPs), as for the cities of Cameroon and Tunisia. Several African countries and cities have prioritised active mobility in their policy strategies, for example:

- Kenya: in 2021, the city of Kisumu (Kenya) launched the Kisumu Sustainable Mobility Plan, a 10-year roadmap that aims to foster increased access for city residents by prioritising active mobility;
- Rwanda: Institute for Transportation and Development Policy (ITDP), in partnership with the City of Kigali (Rwanda), is developing a "Non-Motorised Transport Master Plan", slated for completion in mid-2023, that identifies priority corridors for greenways and active transport in the city (ITDP, 2021);
- Ethiopia: "The Non-Motorised Transport Strategy 2020-2029" targets building 430 km of pedestrian infrastructure and more than 300 km of cycling track in secondary cities, as well as 600 km of walkways and 200 km of cycling lanes in Addis Ababa, by the year 2029 (ITDP, 2021);
- Kenya: "The Non-Motorized Transport Policy of Nairobi City County" allocates 20% of the existing and future transport budget to infrastructure and services for walking and cycling (Nairobi NTP, 2015).

Dar es Salam – TANZANIA

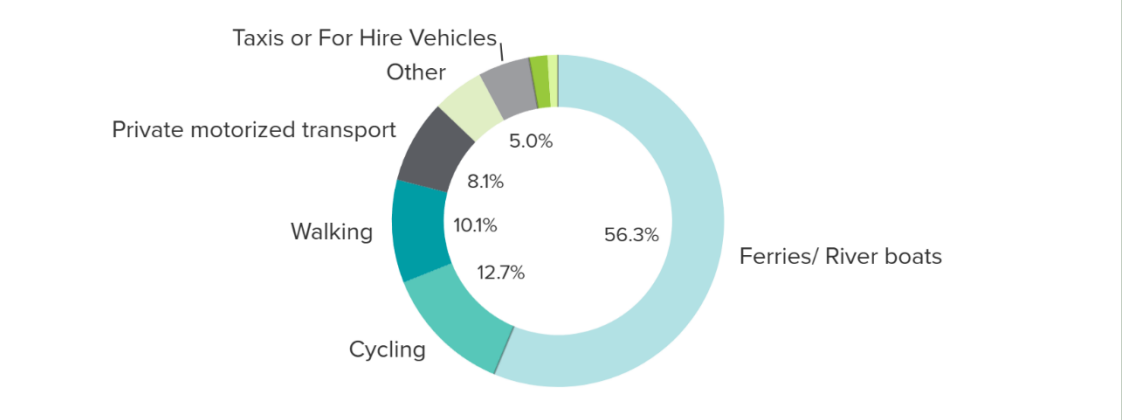

Fig.1 Dar es Salam 's transport mode share (CDP, 2019)

Tanzania is urbanizing rapidly and Dar es Salaam is the largest city in Tanzania, one of the fastest-growing cities in the world. As Dar es Salaam and other African cities continue to develop, there is a critical need to design efficient transport systems. A lack of formal public transport, growing sprawl, and massive traffic congestion, compounded by the challenges of complex and fragmented institutional structures, have kept Dar s Salaam, as well as other African cities, from attaining higher levels of investment and development (Magnusson et al., 2018).
For these reasons, the Government of Tanzania established the Dar Rapid Transit Agency (DART). The aim was to create an agency that would establish and operate a Bus Rapid Transit (BRT) system in Dar es Salaam City to improve the city's efforts in mobility, safety, comfort and clean environment (ADBG, 2015).
Plans for the BRT system indicated that sidewalk and bicycle lanes would be provided in both directions whenever possible, with 2.5 m minimum width for sidewalks and 1.5 m wide bicycle lanes. The high-quality bicycle lanes that run parallel to the BRT corridor, as well as safe sidewalks and at-grade pedestrian crossings have provided a safe space for cyclists and pedestrians (ITDP, 2020).
Dar es Salaam won the Sustainable Transport Award in 2018 and hosted the Institute for Transportation and Development Policy's MOBILIZE summit (UNEP & UN-Habitat, 2022).

3.2 Asia overview

Some Asian countries have adopted sweeping measures towards low-carbon mobility and reductions in vehicle travel, while cities have increasingly created sustainable urban mobility plans (SUMPs), often to decongest urban areas.
Some cities, such as in China (Wang et al., 2014) and Singapore (Diao, 2019), also have adopted strict rules on vehicle permitting and licences to reduce the number of vehicles. Measures to support active mobility are

on the rise in Asian cities, with governments such as India, Indonesia and the Philippines launching initiatives since 2020 to support walking and cycling.

Among the initiatives implemented in India are those of the cities of Chandigarh, the Pune Municipal Corporation and Navi Mumbai which have successfully implemented transit-oriented development in their urban planning master plans (SLOCAT, 2023).

In 2022, the ASEAN (Association of Southeast Asian Nations) region released guidelines for developing SUMPs in metropolitan areas. There have been various actions and tools undertaken by various Asian countries and cities to encourage active mobility, among these initiatives the following stand out:

- in 2020, India launched the India Cycles4Change Challenge to inspire more than 100 cities to become cycling havens, resulting in pilot cycling-friendly solutions along 400 km of main roads and 3,500 km of neighbourhood streets (ITDP India, 2022);
- with the support of "MobiliseYourCity", launched at COP21 in Paris in 2015, some countries, such as India and the Philippines, have implemented sustainable urban mobility plans (SUMPs) and national urban mobility plans (NUMPs).

Singapore – SINGAPORE

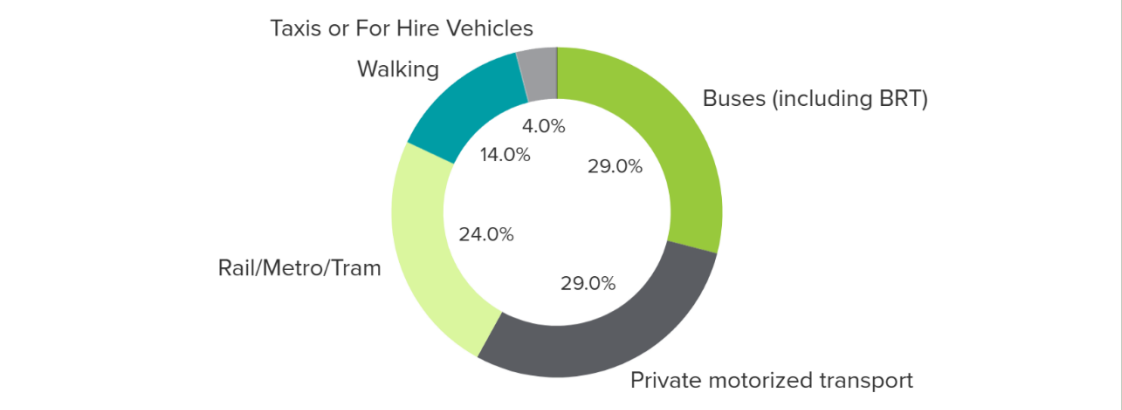

Fig.2 Singapore 's transport mode share (CDP, 2019)

Road and public transportation planning in Singapore is primarily within the purview of the Land Transport Authority (LTA). In 2018, they released the "Land Transport Master Plan 2040", which aims to achieve the following core objectives by 2040:

- "20-Minute Towns" – all intra-town journeys should be at maximum 20 minutes;
- "45-Minute City" – 90% of all inter-town journeys to be completed within 45 minutes;
- 90% of all journeys, both intra- and inter-town, to utilise modes of transportation other than personal vehicles, termed as "Walk-Cycle-Ride" journeys.

In 2022, the Urban Redevelopment Authority (URA) released the Long-Term Plan Review (LTPR) that aims to chart Singapore's infrastructural development for the next 50 years.

Cognisant of the overlap between future land use plans and land transport plans on active mobility, LTA and URA collaborated in 2018 to develop the "Walking and Cycling Design Guide" to guide private developers on installing active mobility infrastructure in their premises. WCDG provides comprehensive specifications to developers on active mobility infrastructure, such as cycling lanes, park connectors, pedestrian/bicycle crossings and bicycle parking designs. The guide also states the bicycle parking provision requirements that developers must meet as part of their Walking and Cycling Plan submissions. Additionally, developers are also incentivised to incorporate other end-of-trip facilities like bicycle servicing, lockers and showers (Lee, 2023).

3.3 Europe overview

As part of the EU's Efficient and Green Mobility Package, the EU Urban Mobility Framework was released in December 2021 to guide cities to reduce emissions, improve public health, and make urban mobility smarter

and more sustainable. The framework foresees that all major cities in the network develop a Sustainable Urban Mobility Plan (SUMP) by 2025, for planning and implementing responses to urban mobility policy challenges in the entire functional urban area.

Since then, the European Commission (EC) has been encouraging the widespread uptake of SUMPs as a cornerstone of European urban mobility policy. In fact, in early 2023, the EC released a Recommendation to Member States to establish national programmes to support cities in developing SUMPs, as "a strategic plan designed to satisfy the mobility needs of people and businesses in cities and their surroundings for a better quality of life" (EU, 2023). The implementation of SUMP, which started in Europe, has now extended to cities all over the world, with the aim of promoting more sustainable mobility (SLOCAT, 2023). An emblematic case is the city of Istanbul (Turkey) which, in 2022, developed the first SUMP in a global megalopolis, covering a population of almost 16 million inhabitants (EU Urban Mobility Observatory, 2022).

The COVID-19 pandemic resulted in key changes in Europe's urban areas, and several cities reconfigured streets to enable greater walking and cycling. In 2021, european countries adopted the Vienna Declaration to spur the transformation towards clean, safe, healthy and inclusive transport and mobility, with a strong focus on promoting cycling across the pan-European region. Ministers and representatives of the European countries also adopted the Pan-European Master Plan for Cycling Promotion, a first-of-its-kind initiative that extends across the region (WHO, 2021).

More and more European governments, as well as regional and city institutions, are developing pedestrian and cycling policies. "Proximity planning – such as the "15-minute city" in Paris, "super blocks" in Barcelona and "low-traffic neighbourhoods" in London – is experiencing reinvigorated momentum" (SLOCAT, 2023).

Since 2020, Brussels (Belgium) implemented the "Good Move", the Regional Mobility Plan, outlining its mobility ambitions, to increase walkability significantly, and reduce car use. In planning for cycling, the Netherlands remains the European leader: in 2015, the country's Tour de Force plan brought together various government and non-governmental entities, as well as businesses and academia, to promote cycling.

Barcelona – SPAIN

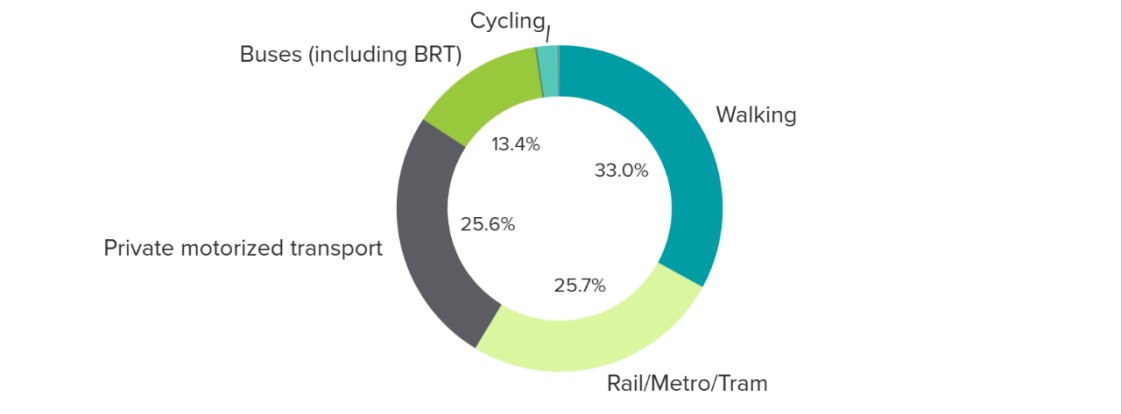

Fig.3 Barcellona's transport mode share (CDP, 2019)

Improving the health and wellbeing of its citizens, while simultaneously reducing the environmental impact of car pollution, have been the driving forces of Barcelona's innovative urban and transport programme of "superblocks".

With the "superblock" project at its heart, the "Barcelona Urban Mobility Plan 2013-2018" is a key element of Barcelona's climate action strategy that plans to transform car-occupied streets into large-scale public green spaces, creating cycle paths inside and around the superblocks, thus promoting alternative and clean mobility.

The city of Barcelona plans to radically transform its mobility, public space, and environmental impact by constructing over 500 superblocks that cover all areas within its boundaries. Physically, a superblock is a traffic-regulated cell of city blocks approximately 400m x 400m, which consists of nine smaller blocks in a three-block by three-block mesh (Zografos et al., 2020). Within the superblocks, pacified interior roads will provide a local road network that is accessible primarily to active transport (i.e. walking and cycling) and secondarily to residential traffic with a maximum speed of 20 km/h (Mueller et al., 2020).

The Superblocks are a new innovative model in urban and transport planning that reframe the current mobility paradigm and places people and well-being at the center. Three Superblock areas have already proved a success, with six more under construction, and long term plans for the blocks to be expanded to serve all of the city's 1.6 million residents (C40, 2019). Active mobility in Barcelona is also encouraged by an important cycling infrastructure, the "Bicivia", a metropolitan cycling network that connects the entire metropolis of Barcelona, with a primary and secondary network for a total of 414 km.

3.4 Latin America overview

Latin America and the Caribbean is the second most urbanised region in the world after North America, with 84% of the population living in cities in 2022 (UN, 2022). Walking remained a major mode of transport in Latin American cities in 2021 and 2022. Cycling was less prevalent, but countries and cities continued to expand their cycling infrastructure, boosted by measures taken during the pandemic such as Chile and Mexico, and cities such as Bogotá (Colombia), Buenos Aires (Argentina), Lima (Peru) and Rio de Janeiro (Brazil) (SLOCAT, 2023).

Local sustainable urban mobility plans (SUMPS) continued to expand in the region highlighting the role of cities as climate action leaders. Among the countries that have adopted tools or programs in favor of active mobility, there are:

- Mexico: in 2020, a constitutional amendment in Mexico, the General Law of Mobility and Road Safety, declared the universal right to safe, accessible, efficient, sustainable, inclusive and equitable mobility, to promote equitable and sustainable access to transport services, and harmonise subnational actions (PAHO, 2022);
- Chile: in 2021, Chile launched its National Sustainable Mobility Strategy, establishing a vision and objectives for urban mobility by 2050 and recommending measures for cities to generate their own locally aligned strategies;
- Uruguay: in 2022, launched the Guide for Sustainable Urban Mobility Planning to provide sub-national governments with tools for planning and implementing sustainable urban mobility strategies;
- Colombia: in 2022, Colombia developed the National Active Mobility Strategy with a Gender and Differential Approach, which provides guidelines for local governments to promote walking and cycling, and also adopts a gender and differential approach to ensure that "no one is left behind", one of the postulates of the Paris Agreement.

Bogotá – COLOMBIA

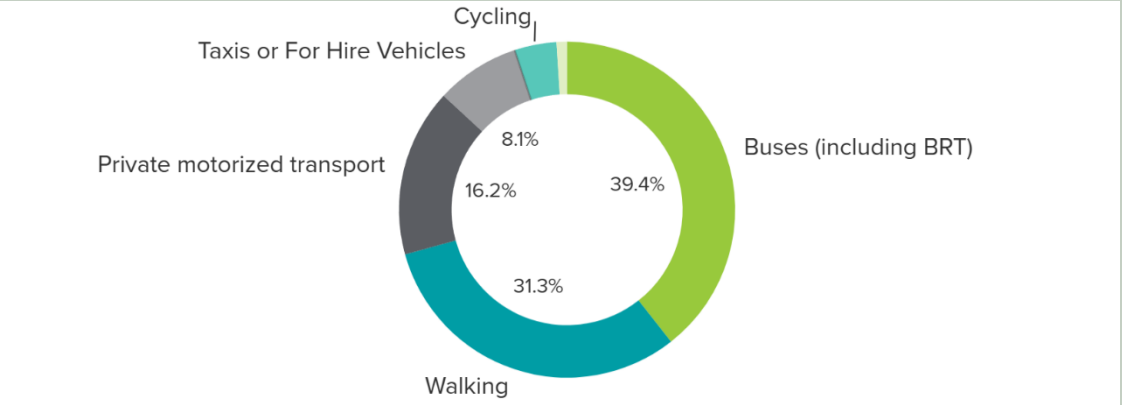

Fig.4 Bogotá's transport mode share (CDP, 2019)

Bogotá is the capital and largest city of Colombia. In recent years the transformation of Bogotá's urban transport has had various components, one of which is the implementation of bicycle-related infrastructure, policies and promotion strategies.

The city's experimentation with cycling began many decades before. In 1974, the city became the first city in South America and one of the first in the world to introduce Ciclovía, an event which sees major thoroughfares closed to vehicle

traffic in order to make way for pedestrians and cyclists. In 1998, construction began on a cycling network known as the "Red de Ciclorrutas" (also known as "The Bike Path Master Plan") that created safe bicycling routes. Initially integrated into pedestrian sidewalks, the project grew from 8 kilometers of bike lanes in 1998 to 240 kilometers two years later. The city also invested in integrating cycling with the public transport system, including creating secure and protected bike parking at terminals and stations of the newly opened bus rapid transit system, TransMilenio. Today, the cycling network includes more than 593 kilometers of permanent cycle paths, 162 kilometers in the roadway, 299 integrated within sidewalks, 124 as shared, low-speed spaces, and 5 kilometers of cycle bridges and tunnels (Mobilize, 2023).
Bogotá won the first Sustainable Transport Award in 2005 and then again in 2022.

3.5 Nord America overview

National governments in Nord America - comprising the large economies of Canada and the United States - have increasingly recognised the need to support city and local governments in planning and implementing sustainable urban mobility strategies – including through the development of national plans, policies and guidelines.

In recent years, there have been several strategies implemented by the North American countries for active mobility. Among these, there is the Canada that released its first national active transport strategy in 2021 and in 2022, British Columbia (Canada) announced new funding for "Vision Zero", a strategy that supports climate goals by shifting people to walking, cycling and micromobility. In February 2023, Fayetteville, Arkansas (USA) updated its Active Transportation Plan with a vision to "develop and promote an interconnected and universally accessible network of sidewalks, trails and on-street bicycle facilities that encourage citizens to use active/non-automotive modes of transportation to safely and efficiently reach any destination" (Fayetteville ATP, 2023).

Vancouver – CANADA

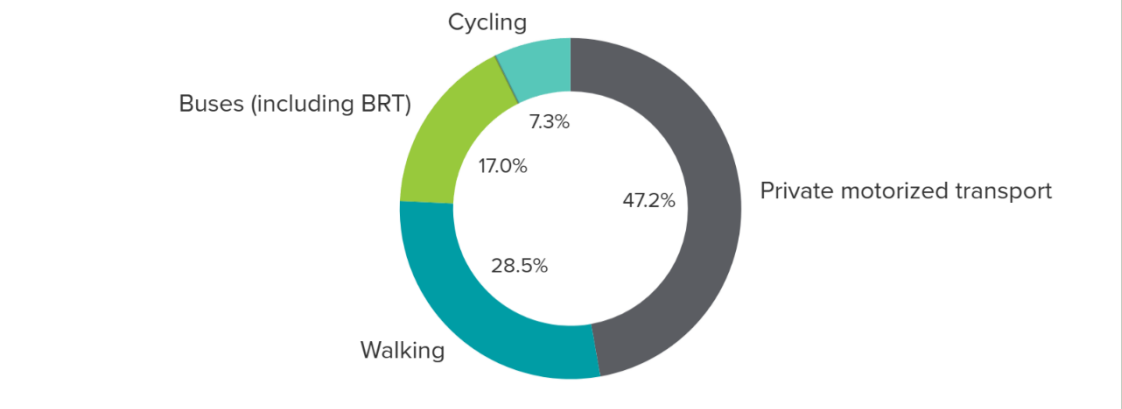

Fig.5 Vancouver 's transport mode share (CDP, 2019)

"Transportation 2040" is the plan adopted by Vancouver City Council in 2012 and represents the long-term strategic vision for the city that will help guide decisions about transportation, land use and public investment for years to come.
In January 2019 Vancouver became the first city in Canada to declare a climate emergency, which was accompanied by ambitious plans to reduce carbon pollution, improve energy efficiency, and transition to renewable energy.
"The Vancouver Climate Emergency Action Plan" (2020) sets out as one of its objectives to ensure that two thirds of Vancouver's travel is on foot, by bicycle or by public transport by 2030, and that 50% of the kilometers traveled on the roads of Vancouver must be achieved with zero emission vehicles.
The city's active transport network will also be extended, e-bikes will be introduced to the city's public bike share system, and an electric vehicle charging network will be introduced to encourage people to make the switch. Proposals for a new zero emission zone are also underway (C40, 2019).

3.6 Oceania overview

In Oceania, which includes the large economies of Australia and New Zealand, private car use has continued to dominate passenger transport. Car trips dominated in Australia and New Zealand even though these countries had the world's highest share of the urban population with access to public transport in 2021, at

82.8%, compared to a global average of 56.2% (SLOCAT, 2023).
In 2020, Wollongong (Australia) developed a comprehensive 2030 cycling strategy; within 10 years, the city aims to make cycling the primary choice for urban mobility, buildingNew Zealand's Decarbonising Transport Action Plan 2022-2025 sets out four transport targets to support the goal of reducing transport emissions 41% below 2019 levels by 2035. In 2022, the city of Wellington (New Zealand) approves a new long-term cycling plan, Paneke Pōneke Bike Network, aimed at expanding cycling networks to connect the suburbs the city centre (New Zealand Government, 2022).

Wellington – NEW ZEALAND

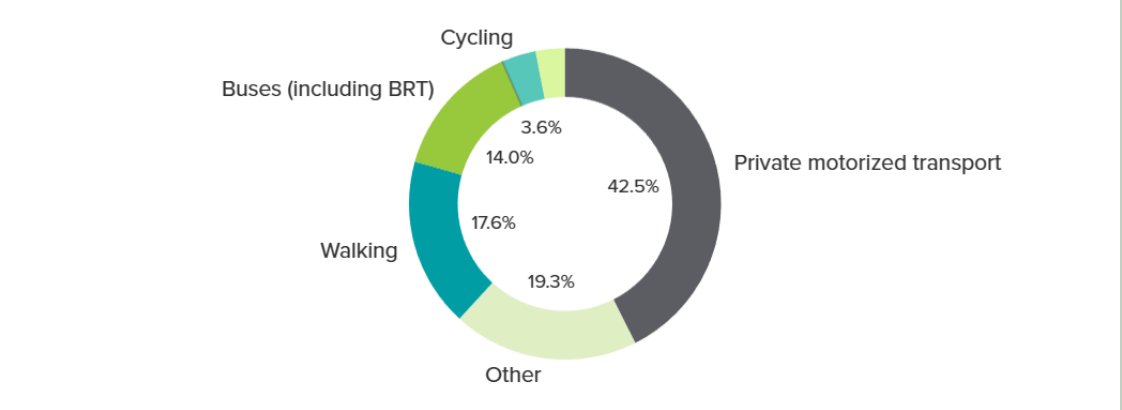

Fig.6 Wellington 's transport mode share (CDP, 2019)

As New Zealand's capital and third-largest city, Wellington has a strong business and commercial hub. A large portion of the number of people cycling in Wellington is made up of those who cycle to work.
In 2022, Wellington City Council approved a new long-term cycling plan, "Paneke Pōneke Bike network plan", aimed at expanding cycling networks to connect suburbs to the city centre.
The goal of the plan is to make Wellington a city where it is easy for people of all ages and abilities to choose low or zero carbon transport options, using a safe network. Cycling and other options such as scooters and e-scooters can make a significant contribution to a change in the way we get around. To enable this change, the city proposes the construction of a safe, connected, and high-quality network for bicycles and scooters.
The future network, 166 km long, made up of 74km of primary connections and 92km of secondary connections, will include the main commuter routes, neighborhood streets and residential streets. The plan also includes consideration of connections to key off-road mountain biking trails that are used by some riders as part of their commute (Paneke Pōneke Bike network plan, 2022).

4. Conclusion

Considering the Paris Agreement goal of keeping global temperatures below 1.5 degrees Celsius (°C) by 2050, policy makers play a crucial role in breaking the link between transport demand and emissions. They must use the tools at their disposal to ensure zero- and low-carbon technologies, and will be essential to integrate and to potentiate a mixture of transport modes: including public transport, ridesharing, shared vehicles and infrastructure for walking and cycling.
To encourage active mobility as a means of transport, a multi-level effort, including awareness-raising campaigns, is needed to educate the population on the benefits that can be derived from more sustainable mobility, favourable territorial policies, to create more pedestrian-friendly urban spaces, with safe pedestrian zones and cycle paths, with adequate connections to stations and stops to facilitate intermodality with other sustainable transport services.
Spatial planning determines the use of city areas (for example, as services, public spaces, industrial districts, retail, and residential neighbourhoods) and how people move around these. It is therefore important to improve the quality of the built environment, ensure greater proximity and quality of access to everyday services on foot and to create viable and convenient options for public transport, so as to contribute to the

progressive abandonment of the use of polluting private vehicles and to encourage active mobility choices, for a more livable and sustainable urban environment.

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