REFLECTIONS ON THE TRANSPORT STRATEGY OF THE MELBOURNE CITY COUNCIL 2030*

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Traffic headaches on the Tullamarine Freeway. Author: Nicole Garmston.
Source: https://www.heraldsun.com.au

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Abstract

In a context of increasing global urbanization and the challenges this presents in terms of mobility and transportation, this paper undertakes a detailed critique of the cycling plan in Melbourne, Australia, with a specific focus on the policies of the Melbourne City Council. Key issues related to the environment, infrastructure and economics are addressed, all within the framework of urban sprawl. Shortcomings are identified in the implementation of mobility strategies and in the promotion of urban habitat sustainability. Urban polarization and planning at the local level are explored as key elements in understanding the Australian reality. The analysis focuses on understanding how decisions and policies adopted by the city council directly impact urban life and the quality of life of residents, highlighting the importance of effective and sustainable management of urban development.

Keywords: Cycling, Melbourne city, sustainable mobility, transport system, urban sprawl.

REFLEXIONES SOBRE LA ESTRATEGIA DE TRANSPORTE DEL AYUNTAMIENTO DE MELBOURNE CITY 2030

Cyclists in the central Melbourne area.
Source: https://www.reddit.com/r/melbourne/comments/8f1tkx/saw_a_traffic_jam_this_morning/

Resumen

En un contexto de creciente urbanización global y los retos que esta presenta en términos de movilidad y transporte, este documento hace una crítica detallada del plan de ciclismo en Melbourne, Australia, con un enfoque específico en las políticas del ayuntamiento de Melbourne. Se abordan aspectos fundamentales relacionados con el medio ambiente, la infraestructura y la economía, todo ello en el marco de la expansión urbana. Se identifican deficiencias en la implementación de estrategias de movilidad y en la promoción de la sostenibilidad del hábitat urbano. La polarización urbana y la planificación a nivel local se exploran como elementos clave para comprender la realidad australiana. El análisis se centra en comprender cómo las decisiones y políticas adoptadas por el ayuntamiento impactan directamente en la vida urbana y en la calidad de vida de los residentes, resaltando la importancia de una gestión efectiva y sostenible del desarrollo urbano.

Palabras clave: Ciclismo, ciudad de Melbourne, movilidad sostenible, sistema de transporte, expansión urbana.

INTRODUCTION

Since the first industrial revolution, which marked a significant change in technological development and urbanization, and especially after World War II, the world's population has experienced a dizzying increase unprecedented in human history (Ward, 2018). This phenomenon has raised growing concern and has been identified as a crucial priority in the global sustainable development agenda. There is growing recognition of the need to address the limitations and consequences of the depletion of the planet's resources, as well as to find sustainable solutions to ensure the well-being of present and future generations (Brundtland, 1987). Accelerated population growth poses multifaceted challenges ranging from natural resource management to urban planning, implementation of clean mobility systems and climate change mitigation.

The United Nations (UN) has reported that currently more than 54% of the world's population lives in urban areas, which has stimulated the excessive use of vehicles, increased environmental pollution and ecological imbalance (O.N.U, 2019). Currently, different points of view have emerged on the population "growth" of cities and the possible solutions to this global problem that has no precedent in the history of mankind. It is notable that the problem of city expansion and urban challenges coincide, to a large extent, with several problems associated with population growth that afflict the planet; residence, work, social life, public space, globalization, mobility, social segregation and sustainability, situations closely linked to the acquisitive increase of automobiles in various cities around the world.

For example, the threshold of vehicles circulating on the planet for the year 2022 was 1.446 million vehicles (Amadoz, 2022), as the figures show, this industry is destined to grow steadily, although it is not possible to estimate with extreme accuracy the exact number of cars currently circulating. These issues have been addressed from various perspectives, but the concrete solutions are not always effective from an urban planning perspective.

Other capital cities with the highest ratio of automobiles per number of inhabitants are in the United States, with more than one vehicle per inhabitant, followed by the strong growth in China, a situation that is increasing in a similar way in other countries of the world, with cities that are increasingly congested, noisy, polluted and uninhabitable (Urquidi, 2005).

The main cause of this phenomenon of urban mobility is the tendency to use vehicles even for short distances, which results in long congestion at traffic lights and, as a consequence, an increase in the greenhouse effect, causing climate change and deterioration of public health (De Lourdes, 2010). The uncontrolled number of vehicles in circulation in most urban centers has generated chaos and difficulty in free mobility, increasing travel times and noise pollution which raise stress levels in modern society.

From an urban perspective, this article aims to take a reflective stance regarding urban growth and the challenges associated with sustainable mobility and intervention in the central area of Melbourne, Australia. Amidst the ongoing urban development of the city, the economy continues to expand at the same pace as the growth of the automotive fleet, posing a primary challenge in urban planning and mobility policies that shape the quality of life for residents and the sustainability of the urban environment.

To provide context, it is necessary to understand that the city council, refers to an administrative subdivision within the governmental structure of the city of Melbourne, Australia. Melbourne, as a city, is organized into districts or divisions, each of which is represented and governed by a specific city council. These municipal councils are responsible for the

management and decision-making at the local level, addressing issues that directly impact the community within their jurisdiction.

Therefore, the City Council emerges as a decentralized entity tasked with overseeing and managing municipal affairs in a specific geographical area within the city of Melbourne. This decentralized structure allows for more efficient administration tailored to local needs, ensuring proper representation and attention to the unique characteristics of each district.

The creation of a sustainable transportation strategy in the Melbourne city council directly addresses the specific complexities and challenges of a highly congested area. This sector concentrates commercial, educational, cultural, and entertainment activities, with a constant flow of pedestrian and vehicular traffic. Furthermore, constant population growth and diversification of activities in the area have led to a significant increase in transportation demand, both public and private. This surge has resulted in traffic congestion, emissions of pollutants, and strains on the existing infrastructure. The need for a sustainable transportation strategy arises from the urgency to address these issues and ensure efficient and environmentally-friendly mobility for residents, workers, and visitors to this bustling district. Moreover, this strategy aims to halve the number of people who die or are seriously injured on the streets of the district.

Furthermore, the concentration of entertainment options, services, and employment in this specific area highlights the importance of facilitating sustainable transportation modes, such as walking and public transport use, to reduce reliance on cars and to alleviate pressure on the road infrastructure.

The strategy focuses on adapting to the specifics of this district, proactively anticipating and managing changes in mobility trends and emerging technologies. Thus, the aim is not only to enhance current mobility but also to establish a solid foundation for a more sustainable and efficient transportation future in the vibrant heart of Melbourne.

A strategy to reduce this problem is to stimulate the use of public transportation, the promotion of daily and healthy activities through the use of bicycles (Bianchi, 2008), the latter being a healthy, accessible, economical and energy-efficient means of transportation, which tends to discourage the use of vehicles. This represents an efficient alternative for urban areas, where vehicular traffic saturation can be stressful, and the environmental impact is considerably negative for health.

FIRST GLANCE AT THE CITY OF MELBOURNE

The city of Melbourne is world renowned for its rich culture, cosmopolitan atmosphere, and dynamic lifestyle. With a diverse population that reflects the multiculturalism of Australia, there are approximately 3,700,000 inhabitants in the metropolitan area. Melbourne unfolds across an extensive territory, with expansive areas of beaches and mountainous landscapes. Its location on the southeastern tip of the Australian continent grants it a moderate climate, appealing to both visitors and residents (Government, 2002).

Melbourne's founding dates back to 1835 at the mouth of the Yarra River, which meanders through the city and has long been a central axis of urban life, providing not only a vital means of transport in the early days of the colony, but also a space for recreation and leisure for Melbourne's inhabitants. The area where the city was originally established, which now houses Melbourne's business center, has undergone a remarkable transformation over the years. From its beginnings as a local settlement to a thriving modern metropolis, Melbourne has grown and evolved steadily, while retaining its history and cultural heritage (figure 1)

Figure 1. Aerial view of the city of Melbourne, Australia
Source: Julián Varón/Unsplash.

In addition, Melbourne currently stands out as a center of business, commerce, and industry. Many of Australia's multinationals are headquartered in the city and there are automotive industries such as Toyota, Ford, and Holden, as well as many other manufacturing industries. It is situated around a central district of approximately 9900 km² which extends over 40 km to the south, 30 km to the east, 20 km to the north and stretches across vast flat basalt plains to the west (City of Melbourne, 2018) (figure 2).

Figure 2. Melbourne Industrial Estate, Australia
Source: Rutherfords Real Estate.

The city's current residential population, estimated at almost 5 million people, is expected to increase considerably, raising its density to more than 2,873 inhabitants/km². All these figures point to how Melbourne, like most major Australian cities, faces not only population growth and urban sprawl, but other challenges that are closely related to transport, climate change, water, and energy security.

CURRENT TRANSPORT SITUATION IN MELBOURNE

After World War II, industrial development led to significant population growth in many countries around the world which generated important mobility and transportation challenges, propelled mainly by the expansion of the automotive industry. This phenomenon drove the city to a significant dependence on the automobile, with substantial repercussions on the environment, urban mobility, and human health (Lizárraga Mollinedo, 2006).

During the 20th century, the automobile became a mass transportation system, causing significant changes in urban planning models and altering the behavior of people around the world. Today, however, these conceptions are being challenged due to the highly polluting nature of this system, characterized by high emissions of carbon monoxide and other noxious gases.

Some countries, such as Australia, have experienced a remarkable increase in urban development that has in turn boosted vehicular transport to a disproportionate extent (Forster, 2004). For example, statistics show how this dependence has increased since World War II, from 100 cars per 1,000 citizens to 500 per 1,000 in the mid-1970s (Forster, 2004). In 2009, statistics indicated an increase in car ownership to 607 cars per 1,000 inhabitants in Canada. This phenomenon reflects a global trend towards increased motorization, which poses significant challenges in terms of environmental sustainability and urban quality of life.

Despite the large increase in vehicles in recent years and the large investments in highways to improve mobility in Australia, the bicycle has become an alternative public transport because of its great advantages. As part of the objectives of the city of Melbourne's 2012 - 2030 transport strategy, the city has implemented the concept of 'superblocks', where streets forming three-by-three clusters, totaling nine blocks, are being redesigned to prioritize people over cars.

Within each superblock, streets are transformed into shared spaces, giving priority to pedestrians, cyclists, residents' vehicles, and delivery services. On the other hand, the streets that form the perimeter of each superblock are designated for vehicular traffic and public transport. In addition, the speed limit has been reduced to 10 km/h to create safe and pedestrian-friendly environments (figure 3). This model reflects a significant change in urban planning, as previously, about 75 percent of the space was dedicated to automobiles, while now 75 percent is allocated to pedestrians.
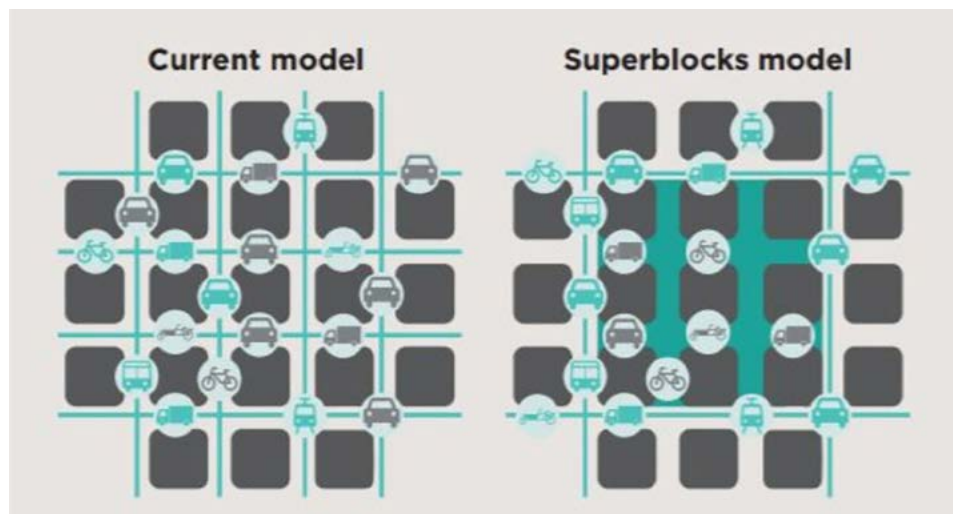

Figure 3. Typology of superblocks Melbourne, Australia
Source: City of Melbourne Transport Strategy 2012 - 2030.

The study highlights the urgent need to reduce the 50,000 cars that travel daily on Melbourne's Central Business District (CBD) roads. To achieve this goal, part of the plan involves converting all streets within the Hoddle Grid, bounded by Flinders Street, Latrobe Street, Spencer Street and Spring Street, to single traffic lanes, with the exception of King Street. In addition, city streets are proposed to be designated as 40 km/h speed limit zones.

The promotion of cycling in the city council is a crucial part of the new urban plans and the council intends to develop more than 50 kilometers of protected bike lanes to strengthen Melbourne's position as the "Leading Cycling City in the Country".

The bicycle as an urban transport alternative

Cycling has been adopted in Melbourne's city transport strategy due to positive environmental results in cities such as Amsterdam, Copenhagen, and Vienna. For example, the Netherlands is one of the countries with the highest bicycle use. It is estimated that more than 16 million people use this type of transport. In addition, 40% of primary school pupils use this mode of transport to get to school. (Ministry of Health, 2018).

In contrast, cycling in Australia, especially in the city of Melbourne, plays a miniscule role as a solution to environmental problems. Despite being one of the cities with the greatest increase in cycling in recent years, Melbourne lacks a large number of cyclists as a result of a poor cycling culture and a lack of commitment from state and local government to promote cycling. The figures remain low as the city has an estimated 1.2 million bicycles of which only 70,000 are used each day on average (Melbourne D. d., 2013). The trend towards increased urban mobility has generated a growing demand for sustainable and efficient transportation systems. In this context, cycling emerges as an attractive and viable alternative to alleviate traffic congestion, reduce environmental pollution, and promote healthier lifestyles.
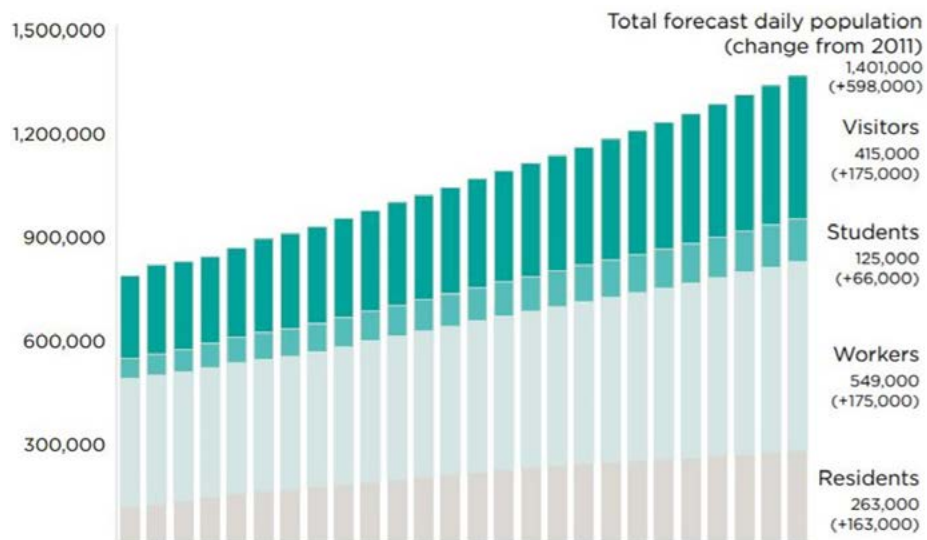

Figure 4. Population use of Bicycle transport Melbourne, Australia
Source: City of Melbourne Transport Strategy 2012 - 2030.

Melbourne's growing population has led to increased pressure on existing transport infrastructure, driving the need to explore innovative and sustainable solutions. As the city expands and densifies, the importance of promoting modes of transport that are economical, efficient, and environmentally friendly becomes apparent. Public transport continues to play a key role in Melbourne's mobility, with increasing numbers of people opting for this

mode to get around the city. However, cycling is gaining ground as an attractive option for many urban residents and workers.
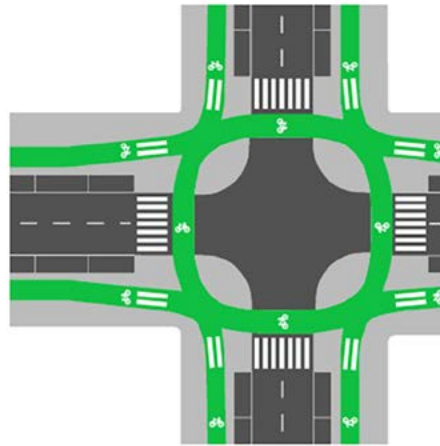
Cycling infrastructure is undergoing significant development in Melbourne, with the construction of protected bike lanes and the implementation of policies that encourage cycling as a mode of transport. These efforts are aimed at improving the safety of cyclists as well as promoting a cycling culture in the city.

The promotion of cycling not only benefits the residents of the Melbourne district in terms of mobility and health but also contributes to reducing the city's carbon footprint and fostering a more sustainable and livable urban environment for everyone. In this sense, cycling is positioned as an integral part of Melbourne's vision as a modern and progressive city in addition to efficient and sustainable urbanism (figure 6).
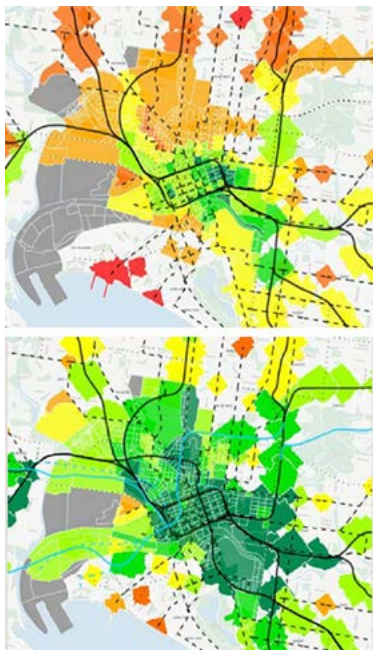
Mapa 2016. Accesibilidad de la red de transporte público.

Proyección 2036. Accesibilidad de la red de transporte público, tras la realización de todos los proyectos probados.
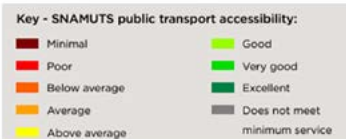
Key - SNAMUTS public transport accessibility:

Minimal	Good
Poor	Very good
Below average	Excellent
Average	Does not meet minimum service
Above average	

According to estimates by Deloitte Access Economics, the actions of the Transportation Strategy are expected to generate economic benefits totaling $870 million over the next 10 years. This comprehensive development not only promotes sustainability and health, but also boosts the local economy and improves the quality of life for city residents. In addition, the population can benefit in a number of ways, such as saving money on transportation.

In Melbourne, the average citizen spends AUD 57 (approx.) per week on public transport, while car owners spend AUD 167 (approx.) per week on owning and using private vehicles. This includes vehicle fuel, lubricants and additives, car registration and insurance, servicing, and repairs in the event of an accident and other vehicle expenses (Melbourne D. d., 2013).

In addition to the benefits to the quality of life and well-being of citizens, investing in urban improvements brings economic opportunity for both residents and the local government. These improvements, aimed at promoting better air quality and creating healthier pedestrian spaces, also open the door to alternatives to the use of mass transit. These investments not only boost the local economy through job creation and commercial activity associated with the construction and maintenance of these infrastructures, but also generate long-term returns by increasing the attractiveness and value of properties in the improved areas. In short, investment in urban improvements represents an economic opportunity that goes beyond immediate benefits, contributing to sustainable development and long-term economic growth.

CONCLUSIONS

Despite the City of Melbourne's efforts to improve and expand cycling routes, the current urban mobility plan focuses on strong policies and commitments to reduce car use. This approach responds to both the urban design of the city and the continued growth of the car fleet, exacerbated by urban sprawl. However, failure to implement these urban policies and actions would have disastrous consequences for the environment and human health. Continued excessive car use would increase air pollution and contribute to climate change, as well as worsen air quality and affect the health of Melbourne's residents.

It is important to recognize that transportation planning must be approached in a comprehensive manner, considering the interconnection and complementarity between the different modes of public transport. Rather than prioritizing the expansion of road infrastructure dedicated to automobile traffic, it is essential to promote an efficient and sustainable public transport system that offers viable and attractive alternatives for city residents.

Clean transportation models are key players due to their positive effects on the environment and contemporary urbanism, as is the case in the Netherlands and Denmark that have consolidated this system. This type of model not only contributes to reducing congestion, noise, and air pollution, but also offers a sustainable and efficient alternative for getting around. The use of bicycles can minimize waste generation thanks to their low maintenance cost and reduced impact compared to motorized vehicles. Furthermore, by promoting physical activity and personal well-being, cycling not only benefits the environment, but also contributes to better public health and quality of life for individuals.

In conclusion, adopting and promoting efficient and low-pollution transportation models, such as bicycles and other means of sustainable mobility, are essential to address environmental challenges and improve the quality of life in various cities around the world. It is crucial to continue investing in the development of policies and infrastructures that encourage this type of transport, as well as to raise public awareness of its benefits and promote its use in everyday life.

REFERENCES

Amadoz, S. (17 de Marz de 2022). El Motor. https://motor.elpais.com/actualidad/cuantos-coches-hay-en-el-mundo-en-circulacion/

Bianchi, H. (2008). Uso y movilidad de la bicicleta en la ciudad: Plan de Incentivo al Transporte No Motorizado (TNM) en Recoleta. Pontificia Universidad Católica de Chile.

Brundtland, G. (1987). Our common Future. Alianza Ed.

City of Melbourne, 2018. About Melbourne Retrieved from www.melbourne.vic.gov.au/about-melbourne/Pages/about-melbourne.aspx

De Lourdes, O. &.-O. (2010). Comportamiento de los gases de efecto invernadero y las temperaturas atmosféricas con sus escenarios de incremento potencial. UCT, 14(57), 221-230. https://ve.scielo.org/scielo.php?script=sci_arttext&pid=S1316-48212010000400002

Forster, C. (2004). Ciudades australianas: continuidad y cambio. Forster, California (Clive A.). Oxford University Press http://www.loc.gov/catdir/toc/fy052/2004463788.html

Government, V. (2002). Planning Of Sustainable Growth. Departament Of Infrastructure.

Lizárraga, C. (2006). Movilidad urbana sostenible: un reto para las ciudades del siglo XXI. Economía, Sociedad y Territorio, 6(22), 283-321.

Melbourne, D. d. (2013). Plan de acción ciclista de Victoria 2013 - 2014. Departamento de Transporte Melbourne.

Ministry of Health, W. a. (2018). Cycling in the Netherlands. National Institute for Public Health and the Environment. http://bcn.cl/2exag. Cycling in theMinistry of Health, Welfare and Sport. http://bcn.cl/2exag .

ONU. (2019). No dejar a nadie atrás. Organizacion de las Naciones Unidas.

Urquidi, V. L. (2005). Perspectiva de la población mundial. Estudios demográficos y urbanos 20(1), 9-21. https://doi.org/10.24201/edu.v20i1.1227.

Ward, S. (2018). Innovación e intercambio de conocimiento en la historia de la planificación: una mirada desde Europa. EURE (Santiago), 44(133), 289-298. https://dx.doi.org/10.4067/s0250-71612018000300289.