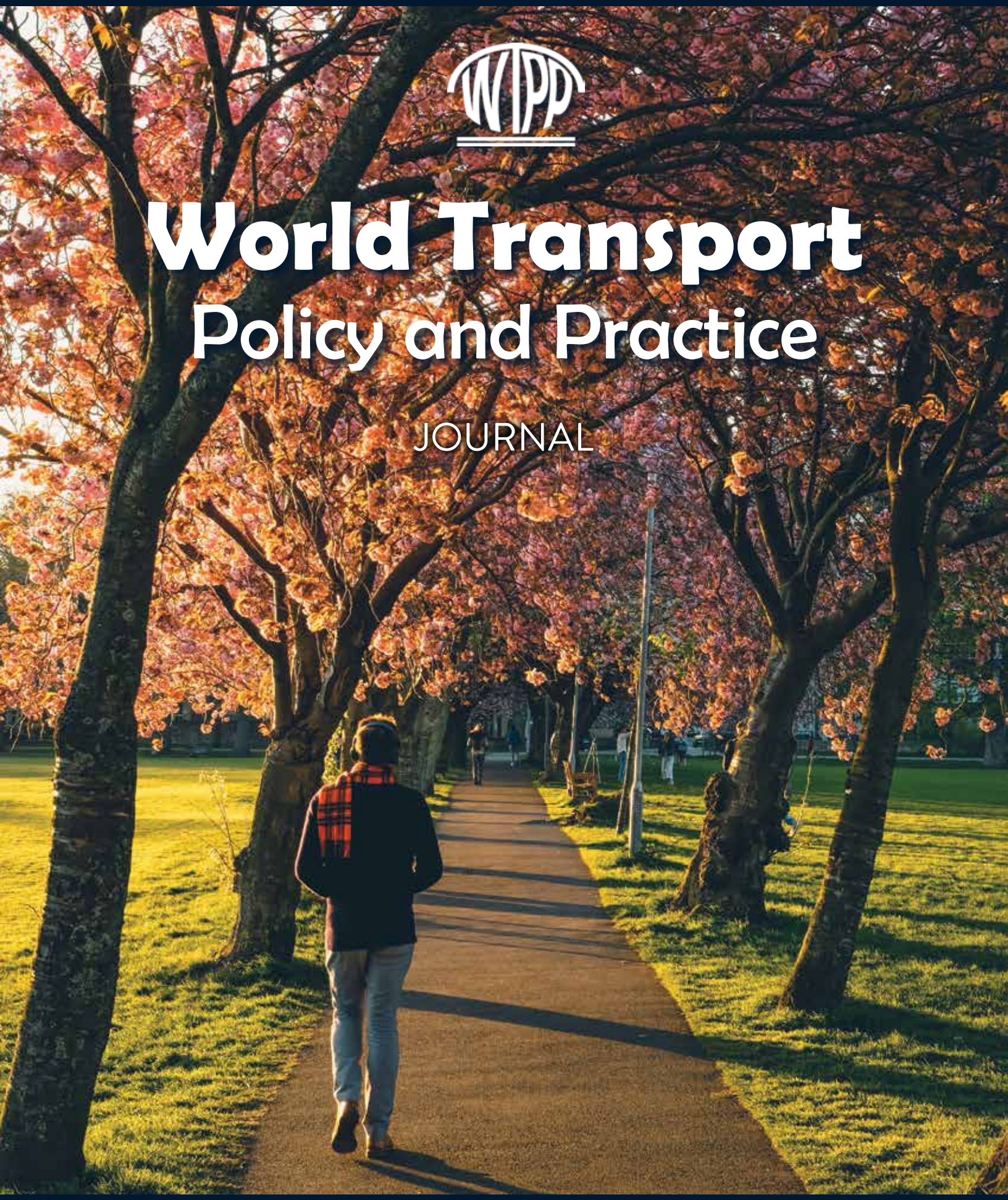
MAY 2024 | VOLUME 29.1



World Transport Policy and Practice

JOURNAL

ISBN 1352-7614

Photo credit: Sarthak Maji, Richmond Park, London, UK, 2023. https://unsplash.com/photos/a-group-of-people-walking-down-a-grass-covered-road-KCha8KHnGE.

WORLD TRANSPORT
Policy and Practice
JOURNAL

PUBLISHER

TRANSPORTATION CHOICES FOR SUSTAINABLE COMMUNITIES (TCSC)

Oakland CA USA
http://worldtransportjournal.org
http://transportchoice.org
e-mail: tcscrpi@gmail.com

COVER PHOTO: Eamonn Wang, The Meadows, Melville Drive, Edinburgh, UK, 2023. https://unsplash.com/photos/a-person-walking-down-a-path-lined-with-trees-fWAea8MIkLc.

Photo credit: Lawrence Chismorie, London, UK, 2023. https://unsplash.com/photos/a-crowd-of-people-walking-down-a-street-next-to-tall-buildings-O_9dStIsDIo

Photo credit: Dean Fugate, Electric Car Charger. https://www.pexels.com/photo/electric-car-charger-17748317/.

Photo credit: Brewbooks, Holyrood Park, the way to Arthur's Seat, Edinburgh, UK, 2023. https://flic.kr/p/2oG7cKp.

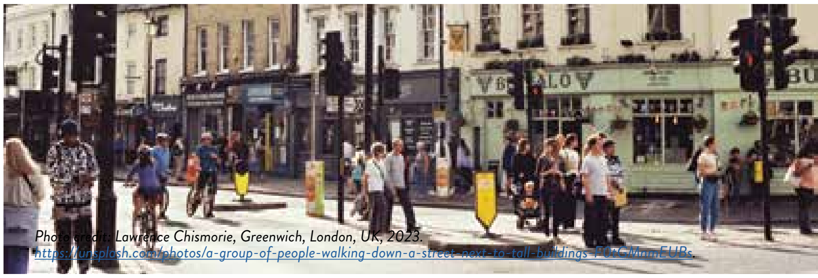


Photo credit: Lawrence Chismorie, Greenwich, London, UK, 2023. https://unsplash.com/photos/a-group-of-people-walking-down-a-street-next-to-tall-buildings-F0tGMnmEUBs.

CONTENTS

Article submissions. All articles submitted for publication undergo peer review to ensure compatibility with our editorial objectives and to ensure technical accuracy. Before submitting articles, please read information for authors at https://www.worldtransportjournal.org/submitarticle.

Indexed in: TRID

ACKNOWLEDGEMENTS

Thanks to all who helped us revive the publication of this journal, especially to John Whitelegg, who trusted us with his vision, and to Marianna Grossman, president of Transportation Choices for Sustainable Communities (TCSC), without whose seed grant we could not have attempted such a daunting project.

Thanks to the many friends and colleagues who volunteered to do all kinds of tasks from helping us trademark the name, to designing the logo, to answering numerous questions about a variety of topics: **Dave Campbell**, **Carol Levine**, and **Marivic Montilla**.
Thanks also to the **Principals Working Group** — **Chris, Charles**, and **Rick** — who helped to steer among the many decisions that came with the re-start of the journal.

Of course, a journal of this kind is dependent on the dedication and expertise of an editorial board and a vast invisible team of peer reviewers; such a team is an essential component of a professional journal. There are expenses to ensure a high-quality graphically engaging journal on a free and open platform; thus funds are needed from donations.

Please consider making a tax-deductible (USA 501c3 nonprofit) donation here: https://www.worldtransportjournal.org/donate

We are proud to continue the 27+ year tradition of a no-fee journal which enables us to publish practical solutions and analysis to promote sustainable transportation.

We thank all of you.

Photo credit: Arthur Edelmans, Regent Street, London, UK, 2018. https://unsplash.com/photos/people-walking-beside-the-street-Yi1zvOHqDkY.

GOAL FOR TRANSPORT POLICY : *THREE ZEROS*

ZERO ***carbon***

ZERO ***air pollution***

ZERO ***deaths & injuries in the road traffic environment***

HOW TO ACHIEVE :

AVOID *(need for long distance travel)*

SHIFT *(to clean modes)*

IMPROVE *(motorized modes efficiency and GHG emissions)*

Visit https://www.carfreealliance.org/we-recommend; https://mail.google.com/mail/u/0/#search/avoid+shift/KtbxLzfhXkRQjqGBQvjbnbnXmrXvXQsNGq.

SUPPORT OUR GOAL

As an open-access journal with no paywall and no Article Processing Charges (APC), WTPP depends on donations and sponsors. If you support our mission to publish practices and viewpoints from across the globe on how communities are implementing more sustainable transport options, both policies and infrastructure, please consider donating at least **$10** at ***https://www.worldtransportjournal.org/donate.***

Or better yet, become a sponsor.

Sponsors of more than **$100** will be listed below (unless you wish to remain anonymous).

GOLD LEVEL : $5000+

MINERVA VENTURES
Charting a Resilient Path

SILVER LEVEL : $2000+

Your Logo Here

Your Logo Here

Your Logo Here

BRONZE LEVEL : $500+

Your Logo Here

Your Logo Here

Your Logo Here

Your Logo Here

Your Logo Here

DONORS : $100+

Anonymous $100

Anonymous $100

Association for European Transport

Your Name Here

Anonymous $100

Your Name Here

We sincerely appreciate the generous donations of Marianna Grossman whose seed grant has enabled us to publish five issues of WTPP since 2022.

EDITORIAL

This issue features an article about how Nairobi, Kenya, is improving the walking experience for all. Despite increasing motorization in the last decade, walking remains an important mode for a large segment of the population. The author provides lessons that can be applied across the globe.

The next three articles focus on policy. The first is a policy piece on electric vehicles originally published by the Scientists for Global Responsibility. This is followed by critique of the United Kingdom's new "Plan for Drivers", which the author finds woefully lacking.

In keeping with the policy theme, we have reprinted an abbreviated version of the World Health Organization's (WHO) Global Action Plan on Physical Activity. We have excerpted those proposed policies and actions—and there are many—which pertain to the transportation sector and to public spaces devoted to transport. In particular, this action step for Policy Action 2.3 is a preview of our Fall issue, which will focus on real-life examples of the benefits of reducing speed limits. If you also have data to share in this regard, please send it (tcscrpi@ @gmail.com), and we will list your experience as well.

Policy action 2.3 Support the implementation and strengthening of the enforcement of traffic speed restrictions (e.g. 30 km/hr in all residential neighbourhoods and 50 km/hr on urban roads).

This issue also has a review of the new Publication ***Big Bets: How Large-Scale Change Really Happens*** by Rajiv J. Shah, the current president of the Rockefeller Foundation.

Lastly, for a bit of levity, we have included some trivia questions. If you enjoy this, we invite you to send in some more trivia questions (and answers!) for our next issue.

Happy reading.

Michelle DeRobertis

Photo credit: Andy Singer, www.andysinger.com

ABSTRACTS AND KEYWORDS

TOWARDS MAKING NAIROBI A WALKING FRIENDLY CITY

Evaristus M. Irandu

ABSTRACT

Walking is dominant in developing cities in the Global South and is a low carbon means of transportation. However, the concerns of pedestrians are often ignored in urban planning. This paper discusses strategies to make streets in Nairobi's CBD more pedestrian friendly. Mixed methods research design was adopted. The key finding of the study is that the higher the education level of street users, the greater the awareness of benefits of user-friendly streets. It is recommended adequate infrastructure be provided to ensure safety of pedestrians.

KEYWORDS

Pedestrianisation, pedestrian infrastructure, Street vendors, Walkways, Nairobi

VEHICLE EMISSIONS: ELECTRIC CARS ARE NOT ENOUGH

Alasdair Beal

ABSTRACT

Alasdair Beal argues for broader and stronger action in the transport sector on the part of the UK government to tackle climate change and air pollution.

KEYWORDS

Climate change, transport policy, electric cars

"He who always thinks it is too soon is sure to come too late."

-German Proverb

THE PLAN FOR DRIVERS: POLICIES OR POPULISM?

Steve Dawe

ABSTRACT

The UK Government's Plan for Drivers as an attempt to divorce car drivers as a group from the overall UK transport context. Subsidies to car driving examined. Active Travel and public transport conditioning overall transport. Enforcement of behaviours, efficacy of actions and significance of Low Traffic Neighbourhoods.

KEYWORDS

Subsidies, Active Travel, Low Traffic Neighbourhoods, Bus Lanes, Electronic Road Pricing

GLOBAL ACTION PLAN ON PHYSICAL ACTIVITY 2018–2030: MORE ACTIVE PEOPLE FOR A HEALTHIER WORLD

World Health Organization 2018

ABSTRACT

The World Health Organization (WHO) partnered with multiple organizations to develop an action plan to help member countries increase the level of physical activity and to help them integrate it into the settings in which people live, work and play. The plan includes the specific proposed actions for Member States that governments at all levels can implement to help increase physical activity. Walking and cycling are key means of transportation and enable engagement in regular physical activity on a daily basis.This reprint focuses on those actions that pertain to the transportation sector and public spaces.

KEYWORDS

World Health Organization, WHO, physical activity, active transport, action plan

CALL FOR PAPERS

for Future WTPP Issues

By the Editor

While WTPP publishes articles within the general topic of sustainable transportation that address reducing adverse consequences of transportation on humans and the environment, we are particularly interested in papers that fit into one of the following themes. There are many aspects and issues that could be addressed within each of these themes and indeed, each theme merits a special issue. Given the lead time involved in preparing articles, we are announcing these themes in this first volume of the relaunch of the journal in the hope that potential authors are motivated to share their experiences with these concepts.

We welcome articles that describe the policies and practices within the following themes:

Cable Cars

Case studies of the planning and implementation of aerial cable cars as well as funiculars. Papers would describe the niche in the transport system that the cable cars fill. Please provide data comparing the cable car to other modes considered in terms of travel time, pollution generated, energy / fossil fuel consumption, construction cost / time. Provide a description of the project background, planning considerations and hurdles that needed (or still need) to be resolved to implement the project.

Evaluation Metrics

Papers that describe how cities are expanding their project evaluation metrics beyond vehicle movement to include consideration of other modes as well as environmental, social and economic benefits. Papers could focus on a single metric which has traditionally been overlooked (e.g. noise) or could focus on a single project type since different projects need a different array of performance indicators.

"The most useless are those who never change through the years."

- James M. Barrie

Project types include: congestion pricing, bus-only lanes, pedestrian streets, green streets, shared spaces, low-emission zones, traffic-restricted zones (ZTL), road diets, slow streets, bike boulevards, and woonerfs.

Photo Credit: Kate Darmody, Kibera, Nairobi, 2019. https://unsplash.com/photos/man-in-white-thobe-standing-on-brown-sand-during-daytime-Ie5u0tXWS0g.

Critique of Standards, Guidelines, Manuals, Textbooks

Papers that describe examples of standards, guidelines, manuals, or textbooks that thwart sustainable transportation. The papers would present examples of problems a specific standard or guideline has created in the past and how it should be (or has been) rectified. If indeed the problem standard or guideline has been changed, then the article would describe the resolution, discussion of benefits, as well as any unresolved issues.

Green Streets

Papers that present Green Streets case studies describing one or more of the many issues and challenges related to their design, implementation and the ensuing quantifiable environmental benefits. These issues range from design options, needed or helpful ordinances or legislation, and obtaining public support or overcoming resistance. Papers could present a before and after evaluation of the quantifiable benefits or describe the process to engage decision-makers and/or the community.

Livability and Transportation

Papers that address the relationship of transportation decisions on the livability of streets and neighborhoods, or on specific populations such as children, elderly, disabled and socially-economic disadvantaged communities. Papers could address how to build residential streets so they don't need to be retrofitted with traffic calming measures; highlight case studies of retrofitting a woonerf on an existing residential street; successful changes to speed limits to improve livability safety and noise; the role of public spaces and plazas in larger and small communities; ensuring transportation improvement funds are spent equitably in a community, or the special needs of elderly, children or other "transit-dependent" populations.

Goods Movement

Papers that describe strategies and practices for goods movement that reduce air pollution and carbon emissions and/or reduce the incidence of collisions and other safety issues. Papers could address the environmental benefits of rail, wind (e.g. sailboats), electric vehicle or human-powered deliveries schemes, the legal and policy setting of implementing new practices such as ordinances and permits, the logistical elements implementing a new scheme or the impacts of the global economy on freight transport's greenhouse gas emissions. Specific examples range from last mile deliveries within a car-free area to using rail/ trams or sailboats/barges instead of trucks.

Transportation and Housing

Papers that address the relationship of transportation decisions on housing supply, variety and density. Papers could address Transit-Oriented Development and its relation to housing supply and affordability (a broad issue) or the effect of unbundling parking from housing (a more focused issue). In particular, is unbundling parking effective when transit service is below a certain level? Which comes first: better transit or unbundling parking? What is the relationship between housing density and transit service (both local and regional)? Updated research and data that expand on the works of Paul Mees would be welcome.

Photo credit: Mwakapila Victor, https://www.pexels.com/photo/back-view-of-a-man-walking-on-a-street-with-a-bag-of-items-on-his-head-20177679/.

UPCOMING CONFERENCES TO KNOW ABOUT

JUNE 5 - 8, 2024 | BALTIMORE, MARYLAND

Project for Public Spaces / 4th International Placemaking Week

More information: ***https://www.placemakingweek.org/***

JUNE 8 - 21, 2024 | GHENT, BELGIUM

Velo City

More information:
https://www.velo-city-conference.com/

AUGUST 12 - 14, 2024 | DETROIT, MICHIGAN

Association of Pedestrian and Bicycle Professionals (APBP)

More information:
https://www.apbp.org/2024-conference

"The reputation of a thousand years may be determined by the conduct of one hour."

- Japanese Proverb

KEEP IN MIND FOR FALL

SEPTEMBER 18 - 20, 2024 | ANTWERP, BELGIUM

The European Transport Conference (ETC) is the **Association for European Transport** annual conference. The conference attracts transport practitioners and researchers from all over Europe and provides in-depth presentations on policy issues, best practices, and research findings across the broad spectrum of transport.

More information: ***https://aetransport.org/etc***

OCTOBER 14 - 18, 2024 | LISBON, PORTUGAL

Walk 21

More information: **https://walk21.com/conference/**

OCT. 29 - NOV. 1, 2024 | CORTONA, ITALY

IMCL: International Making Cities Livable Conference
"The Ecology of Place: Learning from Nature, Culture and History"

More information:
https://www.imcl.online/2024-cortona

Photo credit: Terren, Cottonbro Studio. https://www.pexels.com/photo/3-men-and-2-women-sitting-on-white-bench-4880405/.

TOWARDS MAKING NAIROBI A WALKING FRIENDLY CITY

By Evaristus M. Irandu

INTRODUCTION

Walking is dominant in developing cities in the Global South and is a low carbon means of transportation (Banister, 2005; Conservation Law Foundation, 1995; SIDA, 2020). However, the concerns of pedestrians are often ignored (Lukenangula, 2017; SIDA, 2020). Due to the rapid increase in ownership of motor vehicles and growing, need to satisfy rapidly growing urban population, motorised transport systems are prioritised. Consequently, the needs of pedestrians who mainly use non-motorised transport infrastructure and urban streets are ignored (Banister 2005; Conservation Law Foundation 1995).

According to the UN-Habitat (2013), urban streets play many roles apart from serving as links between various destinations. They act as common spaces for various users, including diverse gender, age, and socio-economic groups, who can engage in social, cultural, political, and economic activities (UN-Habitat, 2013). In any city or urban centre, streets play an important role in enabling residents to move freely from one part of the city to the next, meet, conduct business, socialise, and relax.

In recent years, cities in Kenya like in many other African countries have experienced a rapid increase in motorisation rate (Irandu, 2021). This has led to traffic congestion, air pollution and unsafe streets. As city authorities plan to accommodate increasing motorised traffic, vehicles take up more and more public space. This leaves little or no space for social and economic activities that contribute to sustainable urban development. Cities in Kenya face unprecedented challenges in addressing the surging motorisation rate. (Irandu, 2021). The overall objective of the study was to discuss strategies to make streets in Nairobi's CBD more pedestrian friendly. This involved a) establishing the category of the users of the streets in the CBD b) examining the level of education of street users c) establishing the reasons for making streets in the CBD people friendly) analyzing modal choice and formulating appropriate strategies to make the City of Nairobi people friendly. The findings of the study may assist policy makers in formulating strategies to ensure a more walking friendly and environmentally sustainable city.

Photo credit: Nicholas Gray, Nairobi, Kenya, 2022. https://unsplash.com/photos/a-group-of-people-walking-down-a-street-cJezwjFlJqc.

LITERATURE REVIEW

Importance of pedestrianisation of urban streets

Today, about 50% the global population lives in cities. By 2050, more than 70% of the world's population will be urbanised (UNFPA, 2007). Urbanisation in developing countries will be the driving force behind this global demographic change. It is projected that by 2050, developing countries will accommodate 80% of the global urban population of about 6 billion (UN- HABITAT, 2008). This is likely to exacerbate the transport problems already experienced in larger cities such as Shanghai, New Delhi, Cairo, Nairobi and Mexico City among others.

Urban sprawl experienced in these cities is likely to present insurmountable challenges in formulating strategies to promote sustainable transportation. This has led to adoption of walkability as a core urban design element because of the many benefits it confers to urban residents. Walking is active mobility and is considered the first and last mode used in any travel (Tufa, 2019). Walking is healthy and very environmentally friendly (AASHTO, 2004).

Each year, a large number of pedestrians lose their lives on the public roads. Many of them leave their homes daily to school, work, places of worship, and homes of friends never to return. Globally, pedestrians constitute a greater number of all road deaths, and in some developing countries, this proportion is high. Inadequate pedestrian walkability infrastructures cause more people injuries in traffic-related crashes while walking and some of whom become permanently disabled. These incidents cause much suffering and grief as well as economic hardship for families and loved ones (Tufa, 2019).

Although previous studies seem to suggest that pedestrians are overrepresented in road traffic crashes and fatalities in Nairobi (Khayesi, 1997; Gichuhi, 2007; Ogendi et al, 2011), there is lack of accurate information on actual road traffic crashes involving them and details on the nature their injuries. Ogendi et al, (2013) conducted a study on the road traffic crash trauma cases in Nairobi City and established that about 59% of road trauma admissions by road user categories at the Kenya National Hospital (KNH) in Nairobi were pedestrians.

Photo credit: *Michael Njoroge, Nairobi Traffic, 2022.* https://unsplash.com/photos/a-busy-street-full-of-traffic-bHOOp42Od3o

According to (CDKN, 2021), pedestrians accounted for an average of 64.5% of traffic fatalities in Nairobi from 2015-2019. This is consistent with several studies (NTSA, 2020) and the broader literature showing that Nairobi city's design is largely not people-centric, and the greatest danger to a pedestrian's life is the car.

Creating improved safety and access for pedestrians requires providing safe places for people to walk, as well as implementing traffic control and design measures, which allow for safer street crossings and attractive sidewalk spaces. Rapid urbanisation has led to urban transport crises and urban sprawl faced in many cities of the developing countries. This has called for transport planning to provide the infrastructure to facilitate this nature of movements (Givoni and Banister, 2010).

Although authorities have been switching from one motorised mode to another in an attempt to reduce traffic congestion in urban areas, yet solution has never been found (ibid). Pedestrians and other urban street users have their own rights such as safe walkways and pollution free environments. These are summarised in The International Charter for Walking (https://walk21.com/wp-content/uploads/2020/02/walking-charter-document-2020.pdf). It should be appreciated that people have the right to walk, access, and use urban public spaces. While cities of the developed world have plans to transform arterial streets to accommodate pedestrians and further to create liveable streets, cities of the developing world are more preoccupied with building arterial streets for motorised vehicles, thereby ignoring the needs of pedestrians that constitute the biggest users of streets (UN-Habitat, 2013).

However, growing evidence and international consensus claims that prioritisation of motorised vehicles is a short-term approach that temporarily eases traffic flow, but also stimulates growth in vehicle numbers and use that will again result in more congestion **(Fig. 1)**. According to the ITF (2012), walking is not only an attractive alternative that complements motorised transport, but also an important response to climate change emergency, fossil fuel dependence, pollution, maintaining mobility for an ageing population, health and managing the explosion in motorisation expected in low-income and middle-income countries. Hence, pedestrianisation of urban streets is beneficial to urban residents.

Pedestrian-only streets should be strategically located and easily accessible from residential and commercial spaces. They should be well connected to the public transport systems, bicycle routes and parking. Thus, walking like cycling too, offers numerous health and ecological benefits to urban residents (Irandu, 2021). However, walking in cities faces many challenges such as longer journeys due to urban sprawl, more road traffic accidents (RTAs) and low priority given to it by planners.

Fig. 1: *Traffic Congestion on University Way, Nairobi; Source: Author, 2021.*

Significance of walking in Cities

Walking is common in the cities of developing countries (SSATP, 2015; Vanderschuren and Jennings, 2017; SIDA, 2020). As Okyere et al (2021) observes, majority of the people living in African cities have to walk every day because they are both mobility and income poor. Even where Non-Motorised Transport facilities are available, they are often dilapidated. This presents challenges to people who are physically challenged (Vanderschuren, et al, 2022). In most African cities, walking is the dominant mode of transport (Pendakur, 2005: Bahendwa, 2017; Lukenangula, 2017). For example, Bahendwa (2017) found that walking accounts for about 47 percent of all daily trips made throughout the City of Nairobi. In addition, walking supports public transport, improves overall liveability of a city, provides accessibility within built-up areas and offers alternative means of movement away from private vehicles for short-distance trips. Despite dominance of walking in cities of the developing world, little attention is paid to planning for and exploiting its benefits. Urban sprawl tends to discourage walking, thereby promoting motorised transport (Kiunsi, 2013: Anciaes, Nascimento, & Silva, 2015).

Walking in the City of Nairobi

According to the Nairobi Integrated Urban Development Master Plan (NIUPLAN, 2017), about half of all daily walking trips (46.7%) in Nairobi involves school journeys. Majority of the people living in informal settlements are poor and cannot afford public transport or private cars. Most of these people walk for various trip purposes **(Fig. 2)**.

Fig. 2: *People walking on the streets in Nairobi, Kenya.* Source: *The Star*: https://www.the-star.co.ke/news/2016-05-27-70-of-kenyans-walk-take-matatus-to-work-world-bank/

The Non-Motorised Traffic Policy (NMT, 2015), recommended implementation of safe footpaths and cycle lanes on major streets. However, progress on implementation of cycle lanes and footpaths has been slow (Wanjala, 2019). This is because pedestrians in the City of Nairobi like in many other developing cities are considered a lower priority in urban planning (Lukenangula, 2017).

Pedestrians face many problems during rainy season when they are splashed with muddy water by speeding motorists. Besides, some pedestrians risk their lives by crossing busy streets where there is no zebra crossing or footbridge **(Fig. 3)**.

Fig. 4: *Provision of walkways and cycle paths on Muindi Mbingu Street, Nairobi. Source: Author, 2023.*

It is high time the City's urban design gave priority to pedestrians and not vehicles. Nevertheless, this situation is changing as some of the recent road construction in the CBD has seen better emphasis on pedestrian walkways. A large part of the CBD has seen the construction of pedestrian walkways and cycle lanes **(Fig. 4)**. This is particularly so on Jomo Kenyatta Avenue and Muindi Mbingu Streets, which are some of the major streets in the CBD.

Fig. 3: *Pedestrians crossing anywhere on the street because of lack of footbridges and lack of walkways.*

However, pedestrian walkways are still inadequate and people spill over to the streets where they conflict with motor vehicles. This often leads to road traffic accidents (RTAs). Besides, street vendors occupy some of the available street spaces, which exposes them to risks of being run over by vehicles (Fig.5.). This is mainly because street vendors do not have specially designated areas to operate from (Tufa, 2019).

Fig. 5: *Street vendors selling their items on the street in Nairobi's CBD. Source: Author, 2023*

RESEARCH METHODOLOGY

As already stated, the overall objective of the study was to discuss strategies to make streets in Nairobi's CBD more pedestrian friendly. To achieve this objective, the mixed methods research approach was adopted. This involved thorough search and review of available published and unpublished literature on the topic. Research articles in peer reviewed journals, dissertations and government manuals were critically examined.

A questionnaire survey was used targeting pedestrians using the streets in the entire CBD. Pedestrians were randomly intercepted as they walked to offices, business premises, green spaces, bus stops and sidewalks.

The questionnaire was administered to those pedestrians randomly picked and willing to be interviewed. In total, 1000 pedestrians were interviewed. A series of personal interviews was conducted during two consecutive weeks. The survey times chosen were morning, lunch, and mid-afternoon intervals. These time periods were chosen to allow inclusion of a wide mix of pedestrians with different trip purposes in the sample. 4 Key informant interviews (KII) were purposely selected, 3 from the State Department of Transport of the Ministry of Transport and Infrastructure and 1 Nairobi City County official. The CBD of Nairobi is marked by Uhuru Highway, Jomo Kenyatta Avenue, Tom Mboya Avenue and Haile Selassie Avenue **(Fig. 6)**.

Data was analysed using cross tabulations, frequency diagrams, charts and chi square test(X2).

The two hypotheses tested are:

Ho1: There is no difference between category of respondents and frequency of use of street per week.

Ho2: There is no difference between level of education and frequency of use of street per week.

Fig. 6: *Map showing Nairobi's CBD, Kenya.*
Source: *Google Earth*, 2016. *https://www.researchgate.net/figure/Map-showing-Nairobi-central-Business-District-Source-Google-earth-2016_fig1_308634389.*

Results and discussion

When pedestrians were asked to state the category they belong to the responses are as shown in Fig. 7. About 50% of them consisted of public servants (e.g. teachers, City County employees, Central Government employees) and business people who have retail and wholesale businesses in the CBD and street vendors. These are the people who walk in the CBD daily for various trip purposes.

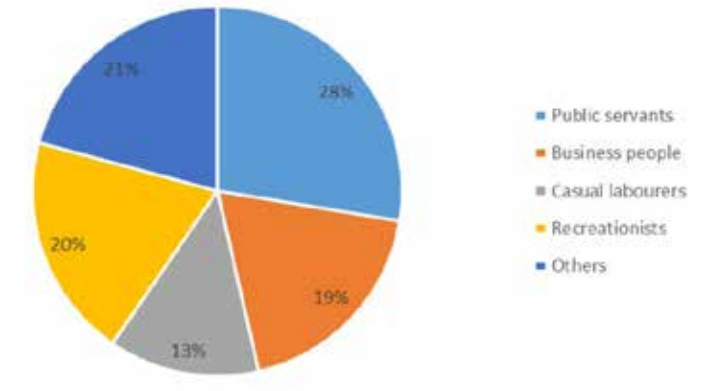


Fig. 7: *Category of Respondents.*
Source: Author, 2023

When pedestrians were asked to state their age, their responses are as shown in Fig.8 below. About 62% of the pedestrians were aged between 20 and 39 years. This is an interesting finding for it shows that majority of the people walking on the streets of Nairobi are young adults. This finding is consistent with that of Kinyingi et al (2020) in their study on walkable streets in Machakos Town in Kenya. They observed that the young adults are "active members of the community with the ability to walk" (Kinyingi et al, 2020: 389).

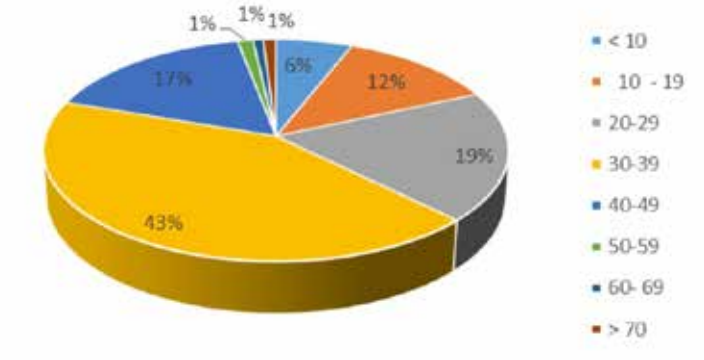


Fig. 8: *Age of Respondents.*
Source: Author, 2023

When respondents were asked to state the reasons pedestrian friendly streets in the CBD of Nairobi are needed, their responses are as shown in Fig. 9. The main reasons mentioned were safety (32%), reduction of traffic congestion (20%) and social equity and inclusiveness (18%). The urban poor living in informal settlements mostly walk to reach their destination. Making streets pedestrian friendly provides a sense of equality and inclusiveness. Such residents also feel that they belong to the City and that their needs are considered in urban street design and planning (Wanjala, 2019; Sagaris & Tiznado-Aitken, 2020).

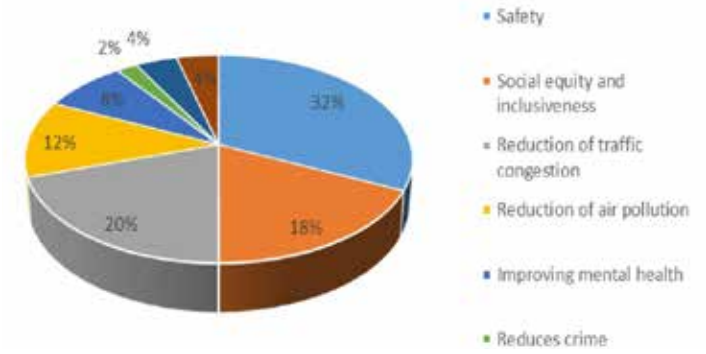


Fig. 9: *Reasons pedestrian friendly streets in CBD are needed.*
Source: Author, 2023

When respondents were asked to state the mode of transport they use for various trips to the CBD, the responses are as shown in **Fig. 10.** From **Fig.10**, it is apparent that walking is the dominant mode of transport in Nairobi's CBD. This is what has also been established by other studies elsewhere (UN Habitat, 2013; Vanderschuren & Jennings, 2017; Porter et al., 2020: Benton et al., 2023). Walking which is a form of active transport, is environmentally friendly for it does not produce emissions. Buses and matatus are also very important for commuters who cannot walk for one reason or the other.

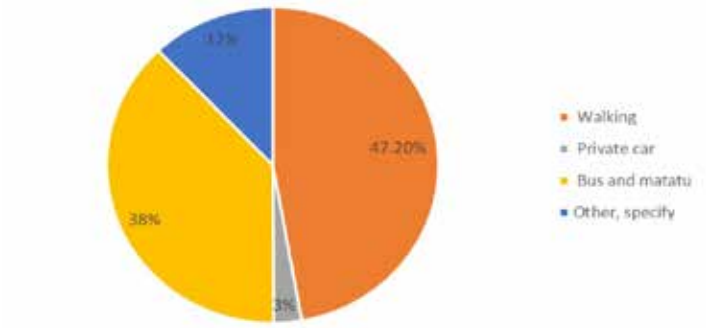


Fig. 10: *Modal choice.*
Source: Author, 2023

To test the first hypothesis that "there is no difference between category of respondents and frequency of use of street per week" a contingent table **(Table 1)** was prepared and X2 test applied.

Table 1: Contingent table for category of pedestrians and their frequency of street use

Category	Frequencies (observed)	Expected	O-E	(O-E) 2
Public servants	276	200	76	5,776
Business people	188	200	-12	144
Casual labourers	132	200	-68	4,624
Recreationists	196	200	-4	16
Others	208	200	8	64
Total	**1,000**			

Source: Author, 2023

The calculated value is 53.12 while the critical value is 9.49 with 4 degrees of freedom, and at 0.05% probability level. The null hypothesis that "there is no difference between category of respondents and frequency of use of street per week" is rejected. This seems to suggest that the category of pedestrians to some extent determines the frequency of use of a given street in the CBD. This is because different categories of pedestrians use streets for various trip purposes such as business, street vending, office work, recreation and so on. Hence, the frequency of use of streets in the CBD by each category is expected to vary.

To test the second hypothesis that "there is no difference between level of education and frequency of use of street per week, a contingent table **(Table 2)** was prepared and X2 test applied. The calculated value is 157 while the critical value is 9.49 with 4 degrees of freedom, and 0.05% probability level. Therefore, the null hypothesis is rejected. This seems to suggest that there is a difference between the level of education of pedestrians and their frequency of use of streets per week. There is a likelihood that pedestrians who are more educated are likely to use streets in the CBD more frequently than those with lower education.

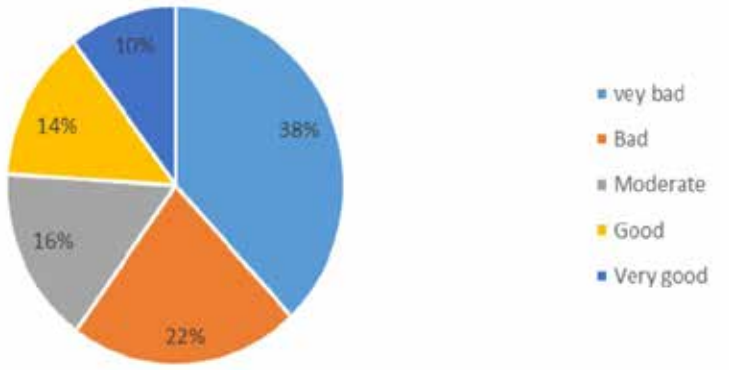


Fig. 11: *Condition of pedestrian infrastructure in the City's CBD. Source: Author, 2023*

Table 2: Contingent table for the Level of education of pedestrians

Education level	Frequencies (observed)	Expected	O-E	(O-E) 2
Primary level	320	200	120	14.400
Secondary level	260	200	60	3,600
Diploma	180	200	-20	400
First degree	130	200	-70	4,900
Postgraduate level	110	200	-90	8,100
Total	**1,000**			

Source: Author, 2023

Fig.11 shows that about 60% of pedestrian infrastructure in Nairobi leaves much to be desired. About 38% of the infrastructure is very bad while 22% can be classified as bad. However, the City authorities recognise the importance of improving pedestrian infrastructure to make urban streets more pedestrian friendly.

Recently, the Nairobi Metropolitan Services (NMS) has embarked on a project to provide walkways and cycle paths thereby giving pedestrians priority over motorists within and around the CBD. When complete, the project will lead to significant reduction in the number of motor vehicles entering the CBD while accommodating an influx of pedestrians (https://citizentv.co.ke/news/a-section-of-the-newly-refurbished-kenyatta-avenue-inside-the-nairobi-central-business-district-cbd-photo-courtesy-334787/).

Photo credit: *Lorenzo Cerato, Nairobi, 2020.* https://unsplash.com/photos/man-in-pink-shirt-sitting-on-blue-and-white-wooden-carriage-during-daytime-o1ixqnCCy_w

CONCLUSION AND POLICY IMPLICATIONS

The main findings of this study are summarized below:

a) Walking is the dominant mode of transport in Nairobi. About 47.2% of the respondents stated that they walk to work, school or for recreation, while 38% said they use public transport such as buses and 'matatus'.

b) Pedestrians want streets in the CBD of Nairobi to be people friendly for safety (32%), reduction of traffic congestion (20%) and social equity and inclusiveness (18%). This is an important finding with serious policy implications. There is need to provide adequate pedestrian infrastructure to ensure safety of people when walking on city streets or crossing. Some of the pedestrian infrastructure include footpaths, cycle paths, zebra crossing and fly-overs.

The urban poor living in informal settlements mostly walk to reach their destination. Making streets pedestrian friendly provides a sense of equality and inclusiveness. This in line with Agenda 2030, which promises not to leave any one behind (UN, 2015).

c) The two hypotheses tested using chi-square(X2) test were rejected. Pedestrians who are more educated are likely to be more aware of the benefits of pedestrian friendly streets than those with little education. In this connection, the City authorities should sensitize residents with little education on safe use of urban streets. There should be adequate signage to provide guidance on crossing the street or where to cross safely. Different categories of pedestrians use streets for various daily trip purposes such as business, street vending, office work, recreation and so on. Therefore, the category of pedestrians has some influence on the frequency of use of city streets. Street vendors occupy large street spaces, which exposes them to traffic crashes. There is need to provide ample and secure space(s) for street vendors away from the CBD.

Throughout the world, investments in cities have been skewed towards car-centric development rather than improving NMT facilities for pedestrians and cyclists. However, this is gradually changing in many cities including Nairobi. Before COVID-19 outbreak, City authorities in Nairobi had embarked on pedestrianisation of the CBD to make it more people friendly and to reduce road traffic accident rates. This is the trend in many other cities worldwide and its tempo has picked up due to corona virus. COVID-19 pandemic has forced cities to reimagine, rethink and transform streets urgently for people and not for vehicles (Irandu, 2020).

ACKNOWLEDGEMENT

The author wishes to acknowledge with profound gratitude all persons who contributed in one way or the other in the preparation of the paper. These include officials of the Transport and Planning departments of the Nairobi City County Government and the State Department of Transport and Infrastructure of the Ministry of Transport, Infrastructure, Housing and Urban Development of the Republic of Kenya, research assistants and media houses for the photographs used.

Author Details:

Evaristus M. Irandu, PhD, is Professor of Travel, Tourism & Economic Geography, Department of Geography, Population & Environmental Studies, at the University of Nairobi. Prof Irandu is an Economic Geographer specialising in Transport, Tourism and Recreation Geography and has carried extensive research in non-motorised transport, standard gauge railway, multimodal transport, African aviation, ecotourism, sustainable tourism and cultural heritage tourism. His work has been published in prestigious international peer reviewed journals such as World Transport Policy and Practice, World Review of Intermodal Transportation Research, Journal of Transportation Research Forum, Asia Pacific Journal of Tourism Research among others.

Email address: evaristusirandu@gmail.com

Photo credit: *Mwakapila Victor.* https://www.pexels.com/photo/men-and-bazaar-on-street-in-town-20177680/

REFERENCES

AASHTO (2004). A policy on Geometric design of Highways and streets.5th Edition. Washington DC. USA.

Bahendwa (2017). Relevance of Walking and Informal Activities in Urban Space: A Case of Dar es Salaam City, Tanzania. Journal of Sustainable Development; Vol. 10, No. 4; 43-55. Doi.org/10.5539/jsd. v10n4p43.

Banister, D., 2005. Unsustainable Transport: City Tansport in the New Century. Routledge, Oxon.

Benton, Jack, S., Jennings, G, and Evans, J. (2023). "Walking is our asset": How to retain walking as a valued mode of transport in African cities. Cities, 137. 1-9.

Climate Development Knowledge Network(CDKN) (2021). Pedestrianisation and non-motorized transport issue 2: Safety. NMT Newsletter.

Conservation Law Foundation (1995) Take Back Your Streets: How to Protect Communities from Asphalt and Traffic. Boston: Conservation Law Foundation

Gichuhi K. Injury pattern among non-fatal road traffic crash victims. East Afr Orthop J. 2007; 1: 23–25. 8.

Givoni, M., and Banister, D. (2010). Integrated Transport. From Policy to Practice. 1st Edition. Routledge. London. UK.

Irandu, E.M. (2020). Making urban streets more people friendly in post COVID-19 era. https://uonresearch.org/blog/making-urban-streets-more-people-friendly-in-post-covid-19-era/.

Irandu, E.M. (2021). Low- Carbon Transport and Sustainable Development in Kenya. Key Note Speech. Department of Geography and Environmental Studies Webinar for celebrating 50 years of University of Nairobi, Kenya.

ITF (2012), Pedestrian Safety, Urban Space and Health, OECD Publishing. http://dx.doi.org/10.1787/9789282103654-en.

Khayesi M. (1997). Livable streets for pedestrians: the challenge for road traffic accidents. World Transport Policy and Practice.; 3(1): 4–7.

Kinyingi, J., Mugwima, N. and Karanja, D. (2020). Walkable Streets: A Study of Pedestrians' Perception, and Attitude towards Ngei Street in Machakos Town. Current Urban Studies 8, 381-395.

Kiunsi, R. (2013). A Review of Traffic Congestion in Dar es Salaam City from the Physical Planning Perspective. Journal of Sustainable Development, 6(2), 94-103. https://doi.org/10.5539/jsd.v6n2p94.

Lukenangula, J, M, B (2017). Walkability in Rapidly Growing Cities in Developing Countries: The Case of Dar es Salaam, Tanzania. A thesis submitted to the Faculty of Spatial Planning of the TU Dortmund University in partial fulfillment of the requirements for the award of a degree of Doctor of Engineering (Dr.-Ing. Germany.

Matta, R. (2021). Improving walking facilities for women at night. TVC 203. 1-19.

Nairobi Integrated Urban Master Plan (NIUPLAN) (2017). Nairobi City County. Nairobi. Kenya.

Non-motorized transport policy: "Towards NMT as the mode of choice." Nairobi City County Government. Nairobi. Kenya.

Ogendi J.O, Odero W, Mitullah, W.V. (2011). Improving safety of non-motorized transport users in the city of Nairobi: lessons and policy responses. 10th International Conference on Urban Health. Belo Horizonte, Brazil.

Okyere et al. (2021). People living in African urban settings do a lot of walking - But their cities aren't walkable. The Conversation: https://theconversation.com/people-living-in-african-urban-settings-do-a-lot-of-walking-but-their-cities-arent-walkable-156895 (15-09-2021).

Pendakur, V. Setty (2005). Non-Motorized Transport in African Cities Lessons from Experience in Kenya and Tanzania. SSATP Working Paper No.80.

Porter, G., Abane, A., & Lucas, K. (2020). User diversity and mobility practices in Sub-Saharan African cities: Understanding the needs of vulnerable populations. The state of knowledge and research. VREF.

Sagaris, L., Tiznado-Aitken, I. (2020). Sustainable transport and gender equity: insights from Santiago, Chile. In: Urban Mobility and Social Equity in Latin America: Evidence. Concepts, Methods, pp. 103–134.

SIDA (2020). Compendium of clean air action in Africa. Centre for Science and Environment.

SSATP (2015). Policies for Sustainable Accessibility and Mobility in Urban Areas of Africa. Working Paper No. 106.

Tufa, M.A. (2019). Impact of roadside vendors and inadequate walkability infrastructures on pedestrian safety in Addis Ababa: a case study of Gulele sub-city, Master of Science thesis. Addis Ababa Science and Technology University. Ethiopia.

UN (2015). Transforming our World: The 2030 Agenda for Sustainable Development. UN. New York, USA.

UN-Habitat (2013). Global Activities Report: Our Presence and Partnerships. Nairobi. Kenya.

Vanderschuren, M., & Jennings, G. (2017). Non-motorized transport travel behaviour in Cape Town, Dar es Salaam and Nairobi. In Non-motorized transport integration into urban transport planning in Africa (pp. 11–26). New York: Routledge. https://doi.org/ 10.4324/9781315598451-2.

Wanjala, G. N (2019). Level of provision and usability of non-motorised transport infrastructure along Tom Mboya Street, Nairobi City County. MA thesis, Department of Regional and Urban planning, University of Nairobi, Kenya.

INTERNET SOURCES

70% of Kenyans walk, take matatus to work, World Bank. https://www.the-star.co.ke/news/2016-05-27-70-of-kenyans-walk-take-matatus-to-work-world-bank/.

New Look of Refurbished Nairobi Streets by NMS. 4 July 2020. https://www.kenyans.co.ke/news/54970-new-look-refurbished-nairobi-streets-nms-photos.

Nairobi CBD Gets Friendly for Pedestrians, Cyclists as Facelift Takes Shape. Kepha Muiruri, June 05, 2020 12:20 (EAT). https://citizentv.co.ke/news/a-section-of-the-newly-refurbished-kenyatta-avenue-inside-the-nairobi-central-business-district-cbd-photo-courtesy-334787/.

Global Alliance of NGOs for Road Safety: Long Wait Over for pedestrians in Nairobi. 30 July 2020. Long Wait Over for Pedestrians in Nairobi - Global Alliance of NGOs for Road Safety (roadsafetyngos.org).

Photo credit: *Michael Njoroge, Nairobi Traffic, 2022.* https://unsplash.com/photos/a-busy-city-street-H1Z6DxyVYbE

VEHICLE EMISSIONS: ELECTRIC CARS ARE NOT ENOUGH

By Alasdair Beal

This article is reprinted with permission. An earlier version of this article was published by Scientists for Global Responsibility 22 Nov 2023. https://www.sgr.org.uk/resources/vehicle-emissions-electric-cars-are-not-enough)

Much criticism has been directed at the UK government for its decision to delay the phasing out of petrol- and diesel-powered cars and vans in favour of their electric (or possibly hydrogen) equivalents, but rather less has been said about the need for a wider range of transport options to reduce emissions of carbon dioxide (CO2), nitrogen oxides (NOx) and particulates in order to help tackle climate change and air pollution.

Forgotten emissions

In recent years, filters and catalysts have cleaned up petrol and diesel car exhausts considerably, but they still emit some particulates and large amounts of CO2 and NOX – and particulates are also emitted from brake and tyre wear. Electric cars are often described as 'zero emissions' but in reality allowance should be made for emissions from the power stations which generate the electricity and also the particulates they emit from brake and tyre wear. Therefore, although electric power is cleaner, the benefits are not as large as they first appear.

The thermal efficiency of a typical car engine is 20-30% (petrol) or 30-40% (diesel), depending on driving conditions. Even the latest Toyota Prius hybrid is still only 41% efficient. Thus, most of the energy in the burning fossil fuels is wasted.

On the other hand, generating electricity from wind, solar panels or hydro-power stations produces no direct emissions, although there are emissions from construction and maintenance.

Photo credit: Chad Russell, Two White and Red Tesla Charging Station, Idaho Falls. https://www.pexels.com/photo/two-white-and-red-tesla-charging-station-2480315/.

However, a substantial amount of UK electricity also comes from gas, nuclear, coal, bioenergy (wood pellets and anaerobic digestion), oil and other sources. Gas-fired power stations have a typical efficiency of about 50%; coal-fired power stations in the past were typically 30-35% efficient but current designs can achieve 40-45%

Increased combustion of biomass – most commonly in the form of wood fuels – has contributed to an increase in particulate emissions, worsening air quality. In addition, net CO2 emissions – the emissions once forest regrowth is appropriately accounted for – have generally being underestimated, as a recent paper in Nature showed. In short, burning wood is also a lot worse for the climate than many had thought.

Nuclear power is also often claimed to be zero-carbon but this omits emissions from mining and processing fuel, power station construction, maintenance, and waste disposal. We should also not forget the problem of nuclear waste management and the connection with nuclear weapons production.

Table 1 shows the breakdown of UK electricity generation in 2021 and 2022 according to the government publication, UK energy in brief.

Table 1. Facts and Figures of the La Paz Mi Teleférico Ropeway Network

Energy Source	2021	2022
Onshore wind	9.5%	10.8%
Offshore wind	11.5%	13.8%
Solar	3.9%	4.1%
Hydro	1.8%	1.7%
Fossil ('natural') gas	39.8%	38.4%
Bioenergy	11.9%	10.1%
Landfill gas	1.0%	1.0%
Coal	2.1%	1.7%
Oil & other	3.5%	3.7%
Nuclear	14.9%	14.7%

Source: https://www.gov.uk/government/collections/uk-energy-in-brief

Thus in 2022, 30.5% of UK electricity was generated from the 'cleanest' sources: wind, solar and hydro power; 54.9% was generated by burning fossil gas, biomass, coal, oil, and landfill gas; and 14.7% was generated from nuclear power. Thus, the cleanest renewable sources are now producing over 30% of total electricity generated. It could be argued that the picture is rather better than this, as a gas-fired or nuclear power station creates rather less CO2 per kilowatt-hour (kWh) than a car engine. However, although emissions from electricity generation are lower than petrol or diesel engines, electric power is 'reduced emissions', not 'zero emissions'.

Photo Credit: *Alexandre Loureiro, Nuclear Power Plant Under the Blue Sky. https://www.pexels.com/photo/nuclear-power-plant-under-the-blue-sky-7097967/.*

In order to achieve the government's timetable for changing to battery-powered cars, a massive number of new charging stations will need to be constructed in the next few years, including arrangements for charging cars parked on the street. Policies recommendations by the Climate Change Committee would have seen the proportion of all-electric cars on the roads reach 55% by 2032, with all diesel and petrol cars being replaced by 2050. In practice, reaching a level of 50% for all-electric cars may not now be achieved until some time after 2035 and it may be significantly later than 2050 before petrol and diesel cars are completely eliminated.

Another issue to consider is the weight of electric cars: plug-in hybrids are typically 20-25% heavier than similar petrol or diesel cars and all-electric cars with a reasonable range are typically 40-50% heavier. Added to this, consumers have been buying the heavier 'sports utility vehicles' (SUVs) in much greater numbers – 44% of new electric vehicles are now SUVs, a proportion even higher than among fossil-fuelled vehicles. Therefore, if all else is equal, all-electric cars will consume more energy and emit more particulates from tyre wear.

So changing to electric cars is not a panacea: the resulting reduction in CO2 emissions is likely to be more limited and take rather longer than many hope. However, given what climate scientists are saying about the action necessary to hit the targets in the Paris Agreement, a narrow focus will not be nearly enough. The idea that the problem can be solved by changing over to electric cars while we continue with 'business as usual' in the meantime is a fantasy.

Pursuing a wider range of options

The only way to achieve major CO2 reductions in the transport sector in the timescale that is required will be to focus initially on measures which can be implemented and produce results quickly without waiting for new technical developments. Other developments can then be planned to complement these, so that their effects combine for maximum benefit.

Measures which would significantly reduce transport CO2 emissions and could be introduced almost immediately at little cost are:

(i) reduce maximum speed limits for cars and coaches to 60mph (100km/h) on motorways and dual carriageways, and 50mph (80km/h) on other roads;

(ii) reduce maximum speed limits for lorries to 50mph (80km/h) on motorways and dual carriageways, and 40mph (65km/h) on other roads;

(iii) increase fuel duty and the number of toll roads;

(iv) expanding the use of car clubs;

(v) increase the cost of flying, e.g. by taxing aviation fuel and increasing airport landing charges;

(vi) improve surface public transport by taking buses, trams, and trains back under public control, and reduce fares and improve services;

(vii) construct more and better cycle lanes.

Measures which could reduce transport emissions further in subsequent years include:

(viii) introduce more electric trams and trolley buses in towns and cities to replace conventional buses;

(ix) a rolling programme of railway electrification and line improvements, including more high-speed services to link with mainland Europe, and replace short-haul air transport;

(x) construct a comprehensive, effective, and robust nationwide network of charging points to encourage use of electric cars and vans;

(xi) further expansion of wind, solar and tidal electricity generation and storage.

These proposals are generally obvious, well known, would be practical to implement and would substantially reduce transport CO2 emissions. Items (i) and (ii) could reduce transport CO2 emissions almost immediately by at about 15%, with further reductions following as measures (iii)-(vii) start to affect behaviour and reduce the amount of travel by car or aeroplane. Substantial further reductions in emissions could then be expected over time as progress is made on items (viii)-(xi).

Listing these measures illustrates what could and should be done to reduce emissions but it also raises a question: if this is what needs to be done, why are government plans for items (viii)-(xi) so sketchy and undeveloped – and why are there so few plans for items (i)-(vii), which should be happening now if they are serious about tackling climate change?

I think the answer is that making vague promises about possible future technological improvements in cars, trains and buses is easy. However, although introducing measures which would make people drive more slowly, make fewer road journeys, and stop flying abroad for cheap holidays would make perfect sense in climate terms, from a political point of view these would all be regarded as 'difficult' or 'courageous'.

Politicians fear that people would simply not accept them and a government which tried to implement them might find itself voted out of office at the next election. However, these changes are technically the easiest and cheapest to implement and the only way to achieve sizeable reductions in emissions within the next few years. Furthermore, they will also be an unavoidable part of any plan to achieve more ambitious emission reductions in future.

The purpose of this article is not to argue against electric cars, or other actions to tackle climate change. It is to draw attention to the scale of the challenge we now face: it is easy for politicians (and scientists and pressure groups) to make speeches about the dangers of climate change and announce grand plans and ambitious targets for reductions in CO2 by 2030, 2040 or 2050. The hard part is making the necessary changes actually happen in practice.

Author Details:

Alasdair Beal CEng FICE FIStructE is a chartered civil engineer, based in Leeds, and a former member of Scientists for Global Responsibility's (SGR) National Co-ordinating Committee.

Photo credit: Nik, Somerset, UK. https://unsplash.com/photos/group-of-person-with-signage-vbFC9BCo95M.

THE PLAN FOR DRIVERS: POLICIES OR POPULISM?

By Steve Dawe

An earlier version of this analysis was published by West England Bylines, October 2023.67

The UK Government issued 'The Plan for Drivers' in October 2023.[1] Since this document lacks timescales for all proposals, clarity about costings and, from time to time, accuracy, then it's a plan not unlike my shopping list – lacking long-term relevance and depth in many respects.

A second major problem is that this Plan is almost exclusively directed at car drivers. To deal with all forms of road use, including by pedestrians and cyclists, a holistic approach is needed which recognises how different stakeholders have their own agendas and preferences. This is how rational policy choices may be developed and implemented. Expansion of delivery vehicles suggests a need for more e-cargo bikes in towns and cities, and therefore better and wider cycle tracks; taxi drivers want access everywhere, which contributes to the problem of rat-running through residential areas which is often very unwelcome; enthusiasm for reducing traffic in towns and cities has risen with numbers of vehicles but the current Government has a form of immunity against recognising and responding constructively to this. There is ample evidence that adding pedestrianisation to shopping areas increases footfall and maintains shops, at least outside the UK's cost of living crisis, so favouring drivers really is not an economic choice. It is even less so when evidence suggests that pedestrians and cyclists show more inclination to shop and to spend than drivers, where cars are absent. This is all just a tiny glimpse of the tip of a very large policy iceberg suggesting a 'Plan for Drivers' aimed at courting car drivers is inherently unrealistic.

Photo credit: Nick Fewings, 2019.
https://unsplash.com/photos/assorted-color-road-signs-srO-NYTfRz8.

[1] https://www.gov.uk/government/publications/plan-for-drivers. Issued on 2nd October 2023.

Let's step back a bit and consider the current context. Whilst the Plan does mention that there are 40 million vehicles in the UK already, it does not mention that this could rise by 22% up to 2060. The UK Department for Transport(DfT) analysed several scenarios which in fact suggest 8%, 22% or up to 54% increases by 2060.[2] Since the DfT and the associated agency National Highways tend to ignore or downplay induced traffic, it seems likely traffic increases could be at the higher end of the scale.[3] Induced traffic refers to when additional road capacity is added with new roads of additional lanes, and how these create more and longer journeys.[4]

Members of the UK Parliament have told the DfT to concentrate resources on pothole and road repair and not new roads.[5] The poor condition of the road network seems to have forced the 'new roads' funding to be up to about half deployed to repairs and renewals. After all, government planning for drivers by insisting on building new trunk roads has created a £16.3 bn backlog of road repairs. And resurfacing is only occurring on roads at a current average of once in 80 years.[6]

But the Government is still proceeding to build more trunk roads, ignoring MPs and both environmental and transport organisations, and plan for even more of them. Counter arguments stressing the need for a Low Traffic Future have been recently gathered by a coalition of groups with the same name.[7]

A plan for drivers which does not consider the exceptional physical limits our settlements place upon traffic expansion is of little use. The plan suggests welcoming of more traffic congestion, whereby lower average speeds and more stress for drivers is the actual plan likely to be delivered. Clearly, this will delay deliveries and economically essential journeys and could impact emergency vehicle movements too. More cars means worsening conditions for car drivers, so road traffic reduction and traffic calming measures would seem the best options for making driving easier, when driving is actually necessary.[8] The Government is also ignoring long-term well-established trends increasing traffic calming, which is how councils of all political colours have responded to the growth of our overall traffic fleet upon settlements.

The Plan alleges Government has made significant improvements in our road network since 2010. Road repairs, potholes, noise, air pollution, traffic's contribution to greenhouse gas emissions, deaths and accidents and time wasted in slow or gridlocked traffic are major features of the malfunctioning road network, which are also worsened by under-investment in bus services and active travel–and by failing to upgrade or re-open rail lines.

SUBSIDIES

The Plan side-steps the issue of subsidies from general taxation to driving. By 2009, these had reached about £26bn a year from general taxation on top of what motorists were paying, according to the Institute of Public Policy Research, and despite these subsidies in 2010 fuel duties were frozen. So, the unwritten 'plan' has supported transport as the major source of carbon emissions in the UK, ignoring commitments to cut greenhouse gas emissions under the Paris Agreement. The loss in revenue of keeping these fuel duties frozen amount to about £80bn so far.[9]

[2] https://www.racfoundation.org/media-centre/traffic-expected-to-grow-under-all-scenarios-dft#:~:text=Road%20traffic%20in%20England%20and%20Wales%20could%20grow,most%20modest%20estimate%20being%20an%20increase%20of%208%25.

[3] Standing Advisory Committee on Trunk Road Assessment, 1994, Trunk Roads and the Generation of Traffic.

[4] Academics such as Todd Litman and Rachel Aldred are amongst those who have written extensively on induced traffic. It is worth noting that whilst additional lanes, not just new roads, adds to road capacity but measures like bus lanes and cycle ways reduce road space.

[5] https://www.forbes.com/sites/carltonreid/2023/07/26/shelve-major-new-roads-to-fix-potholes-instead-uk-parliaments-transport-committee-tells-dft/.

[6] See detailed current statistics from the industry: https://lcrig.org.uk/2024/03/19/alarm-survey-2024-carriageway-repairs-backlog-increases-to-a-record-high-of-16-3-billion/.

[7] Low Traffic Future – *Local action for a Low Traffic Future; local transport plans: a guide for councillors and campaigners*, 2023.

[8] This could involve a very large range of measures: reducing urban settlement car parking; making it harder to parents to park near schools, large increases annually in Active Travel (walking, cycling); more car parking exclusively for the mobility-impaired; electronic road pricing charging vehicles in ways which favour least use of most polluting and larger vehicles in most-congested areas. This approach has been used, with periodic revisions, in Singapore, since 1998. See: https://www.mot.gov.sg/what-we-do/motoring-road-network-and-infrastructure/Electronic-Road-Pricing. The Government of Singapore has created extensive materials online on Electronic Road Pricing.

[9] For a comprehensive analysis on the impacts of the fuel duty freeze see: https://www.carbonbrief.org/analysis-fuel-duty-freezes-have-increased-uk-co2-emissions-by-up-to-7/.

These billions in subsidies to driving join subsidies to fossil fuel corporations in the UK each year of about £10-12 billion, rather than devoting such resources to speeding up a transition to sustainability in sectors such as transport and energy. Rather than planning to tackle 'rip-off fuel retailers', Government needs to recognise its failures on public health, air pollution, noise and congestion, and return to increasing fuel duties to accelerate a transition to sustainability, more Active Travel, more public transport use and fewer short-distance car journeys. Scrappage of the most polluting vehicles should be used to help this transition.

On short distance journeys by all modes, in 2021 25% of trips were under 1 mile and 72% under 5 miles. The restoration of the walking habits of the past is a good health promotion goal. These short journeys seem to suggest school run and supermarket trips might be factors worth addressing, and indeed many schools try to deter car use and supermarkets are often now delivering to homes. But these activities are also age-related: people aged 60-69 make up the largest share of trips using car, motorcycle or other private transport at 66%.[10]

The Government claims a commitment to road safety and addressing accidents, but ignores the importance of 20 mph limits as a key factor in accident reduction. Evidence suggests big speed reductions on the previously fastest roads when 20 mph limits are introduced.[11] There is growing support for a 'Vision Zero' approach to traffic accidents, supported by Transport for London, Brake, and by local groups in Oxford like leading cycling campaign Cyclox.[12] There are also some suggestions about building upon the 'roadbelt' to counter the domination of settlements by roads, using space in settlements more effectively for a diverse range of uses.[13]

ACTIVE TRAVEL AND PUBLIC TRANSPORT

The Plan alleges the Government has made 'substantial investment' in public transport and Active Travel. This is open to challenge. Buses remain limited in geographical coverage and frequency of services. The cut in fares to £2 is temporary, although extended to the end of 2024. There has been no recognition whatsoever that the comparatively low cost of an entirely fares-free bus system under public ownership is both affordable and consistent with meeting Climate goals and reducing air pollution, including from non-exhaust emissions.[14]

Active Travel has been cut by the Government to a derisory amount per year in England. Sustrans notes:

> "Funding cuts announced in a written ministerial statement on 9th March mean that capital investment for active travel will plummet over the next two years. These cuts represent a two-thirds reduction from £308 million to £100 million over two years. Active travel funding for 2023/24 is likely to be reduced to £50 million, and the same for 2024/25. The cuts mean the Government's own target of 50% of urban journeys being walked, wheeled or cycled by 2030 will be impossible."

Public spending on cycling was running at £7 per person per year in England in 2019.[16]

[10] National Travel Survey 2021 mode share, journey lengths and public transport use - https://www.gov.uk/government/statistics/national-travel-survey-2021/national-travel-survey-2021-mode-share-journey-lengths-and-public-transport-use.

[11] https://www.20splenty.org/big_speed_reductions.

[12] See details on Vision Zero at: https://www.brake.org.uk/how-we-help/national-campaigns/the-change-we-want/vision-zero.

[13] https://www.createstreets.com/wp-content/uploads/2023/09/Moving-towards-growth_080923.pdf?link_id=26&can_id=5e4bc0fed6c3dc2db42c6f59fdc3526c&source=email-tan-september-newsletter&email_referrer=email_2066144&email_subject=tan-october-newsletter. 'Roadbelt' is a new term referring to the preferences of some UK institutions to build roads on designated sites including Green Belt – around existing larger urban settlements in some locations.

[14] From brake pad erosion, tyre erosion from contact with road surfaces, tyre abrasion of roads causing toxic particulates to be dispersed, and from the air movement created by vehicles dispersing pollutants.

[15] https://www.sustrans.org.uk/our-blog/news/2023/may/don-t-be-fooled-by-the-government-s-good-news/#:~:text=Funding%20cuts%20announced%20in%20a%20written%20ministerial%20statement,to%20%C2%A350%20million%2C%20and%20the%20same%20for%202024%2F25.

[16] https://www.independent.co.uk/news/uk/home-news/cycling-england-london-bicycle-bike-transport-figures-a9029761.html#:~:text=The%20government%20currently%20spends%20%C2%A37%20per%20head%20per,the%20%C2%A318%20per%20head%20spent%20in%20the%20capital.

London was an anomaly with £18 per person per year. The Scottish Government committed to raising overall active travel spending to £60 person per year from 2021.[17] Wales is experiencing some 'roll back' in its figures for walking and cycling.[18] Data has been compromised to some extent by Covid, pushing cycling up temporarily,[19] followed by reductions in many places. To give a UK Government view from recent statistics:

"In the year ending September 2023, the latest provisional data shows that:

- cycling traffic levels have decreased by 5.0% since the previous year (September 2022). The provisional road traffic estimates have shown that motor traffic levels have increased by 2.3% over the same period - September 2022 to September 2023.
- cycling traffic levels have no change compared to the previous month (August 2023).

"Longer-term trends show that:

- cycling traffic levels have increased by 15.1% since December 2013.
- cycling traffic peaked in March 2021 during the coronavirus (COVID-19) pandemic increasing by 62.7% from December 2013. COVID-19 restrictions were still in place during this peak and will have impacted travel patterns across England.
- cycling traffic levels have been decreasing since the peak in March 2021, falling by 29.3% between March 2021 and September 2023 but remain 2.2% above pre-pandemic levels (September 2019). In comparison, motor traffic levels have decreased by 2.7% between September 2019 and September 2023."[20]

There is an unstated very important issue with Active Travel. Since there are known health benefits to cycling and walking, costing these effectively would demonstrate the actual net costs of investment in Active Travel when its contribution to public health is considered.[21] If the Government seriously supports health, productivity and employee effectiveness, it has to support Active Travel substantially for its clear benefits. The Government has actually noted various sources which support active travel modes as a contribution to health improvements.[22] Despite this, Active Travel investment is not being prioritised and indeed never has been. So, the Plan's suggestion that, generally, measures are being taken that favour non-drivers are inaccurate in terms of tiny levels of active travel spending, for many years.

Support for new trunk roads has undermined road and pavement(sidewalk) repairs, active travel funding, and has encouraged the emphasis on car driving as a Climate, air pollution and health damaging activity. For comparison, the 2021 'Healthy Pavements' report for the DfT estimated that it would cost £1.7 billion to repair and maintain all the pavements(sidewalks) in England (excluding London).[23]

ENFORCEMENT AND EEFFICACY IN A COMPLEX TRANSPORT CONTEXT

The Plan suggests 'stopping unfair enforcement' as if breaches of the Highway Code and other traffic offences should be ignored, rather than seeking to encourage better driver behaviour; parking is to be made 'easier', which in itself does not mean anything; 'inconsiderate driving' is to be targeted but by whom in a country without far more traffic police, with increased powers, remains unclear; zero emission driving is to be helped, but there is no scrappage scheme to get the most polluting vehicles off the road, nor any regulation to help reduce numbers of SUVs which have grown substantially in recent years.[24]

Photo Credit: *Georg Eiermann, Bicycles Before Westminster, London, Vereinigtes Königreich, 2023.* *https://unsplash.com/photos/a-group-of-people-riding-bikes-down-a-street-D9RhAHMiVQQ*

[17] https://road.cc/content/news/scotland-get-ps60-head-annual-spend-active-travel-285783 NB. Scotland has an elected Parliament with powers delegated from Westminster; Wales has a national assembly with its own powers similarly, but not identical in scope of such competences to Scotland.

[18] https://nation.cymru/news/statistics-deliver-blow-to-welsh-active-travel-policy/.

[19] See: https://www.cyclinguk.org/statistics.

[20] https://www.gov.uk/government/statistics/cycling-index-england/cycling-index-england.

[21] See: https://www.sustrans.org.uk/our-blog/get-active/2019/everyday-walking-and-cycling/health-benefits-of-cycling-and-walking/.

[22] See 'Physical Health' section at: https://www.gov.uk/government/publications/active-travel-local-authority-tool-kit/active-travel-local-authority-toolkit.

[23] Thanks to Owen McKnight for this information.

[24] Possible report: https://www.wearepossible.org/our-reports/tractor-attack.

The UK Government plans transport, and Climate, actions best judged by efficacy at local level quite often. Visible, impacting change at local level can be replicated throughout local government with reasonable funding. It can also be overtly within the context of the Government's Climate aim of Net Zero by 2050. Constraining future bus lanes – as the Plan for Driver suggests - does not help this; giving local councils a larger role in road repairs implies a substantial growth in their funding, particularly when re-surfacing (not just pothole patching - needs to consider the greater weight of EVs on roads; councils also need staffing to permit pothole and resurfacing quality checks. To emphasise: the delivery of the Plan for Drivers would mean substantially increasing local government funding; there does not appear to be any sign this would take place.

Despite evidence in support of 20 mph limits, the Government opposes 'inappropriate blanket use' of them. But each school needs 'school street' status to protect children in particular by cutting traffic movements. Every residential area is entitled to protection from speeding and rat running, making virtually all areas suitable for 20 mph. This is before consideration of the obvious benefits of reducing accidents, deaths and other injuries.

Sadly, the Government has catered to the conspiracy theory of 15-minute cities. They wish to 'stop local authorities using so-called '15-minute cities' to police people's lives.' But this is utter nonsense as no local authority could afford the camera systems to detect vehicle movement, nor do they have staff for enforcing confinement of millions of people.

Government claims that Low Traffic Neighbourhoods (LTNs)[25] have not secured public support. This is actually not true, in Oxford for example, despite inflated versions of minority opinion in local and social media. A recent survey by the Coalition for Health Streets and Active Travel (CoHSAT) suggests substantial support for LTNs.[26] A survey carried out by YouGov on behalf of CoHSAT[27] member group, Oxfordshire Liveable Streets, showed that 56% of respondents supported LTNs, while only 29% opposed them. As in the London LTNs,[28] the Oxford LTNs are strongly supported by those who live in them. And wild business claims of damage by LTNs are not plausible when Oxford is recently showing better retail performance than other areas.[29] Transport for London has done survey work on the impacts of London's LTNs.[30]

Driver attitudes, collated by the Royal Automobile Club(RAC), show a diversity of concerns wider than the Government's Plan – including for example the physical condition of local roads.[31] In Oxford, peer reviewed research indicates a very wide range of transport concerns amongst the public, including notably willingness to consider using public transport more if it was improved.[32]

The Government plans to introduce 'fair fines'. But fines that do not appeal to their recipients as 'fair' may well be in the interests of society. Stopping drivers from using yellow hatched areas[33] is only one of many issues with current driver behaviour. Drivers who persistently stop on the cyclist's 'advance stop line' at many traffic lights do need to be fined, and it is quite appropriate for local councils to gather funds from fines obtained to support the very limited range of income sources they have in the present period. There is also the issue of how disincentives to bad driver behaviour are maintained, and increased if there are signs of continuing problems.

Quieter and cleaner neighbourhoods will be achieved by more LTNs and a roll out of electronic road pricing,[34] to encourage fewer journeys, and to replace fuel duty losses as EV growth continues.

[25] "LTN schemes seek to remove or substantially reduce through motor traffic from an area or neighbourhood." https://www.gov.uk/government/publications/low-traffic-neighbourhood-review.

[26] https://cohsat.org.uk/majority-of-oxford-public-back-low-traffic-neighbourhoods/.

[27] Coalition for Healthy Streets and Active Travel.

[28] See: https://www.forbes.com/sites/carltonreid/2023/07/13/latest-polling-shows-overwhelming-public-support-for-ltns/?sh=1f666e811551.

[29] See: https://www.oxfordmail.co.uk/news/23854350.oxford-city-centre-bounce-back-footfall-bucking-trend/.

[30] https://content.tfl.gov.uk/impacts-of-ltns-in-london.pdf

[31] See: RAC Report of Motoring 2023: https://www.rac.co.uk/report-on-motoring.

[32] Street Voice, a citizens jury on transport, health and climate change in Oxford – September 2022 report to Overview and Scrutiny Committee. See also article on this mode of consultation at: https://www.sciencedirect.com/science/article/pii/S2772569323001299.

[33] Yellow hatched, criss-cross line markings, generally on junctions indicate an area in which traffic may not pause.

[34] See the current author's report on applying Electronic Road Pricing at: https://www.catg.org.uk/reports/.

It is very difficult to see how the prolific activity of roadside littering is going to be stopped as the Plan for Drivers suggests, as it is prevalent throughout the country. But the Government will 'clamp down' on it using unexplained means.

One of the few specifics in the Plan is Government claims of investing £24 bn in the Strategic Road Network. However, this gives an impression of new road building when much of the budget is being used for road repairs. But this allocation is for all surface traffic including delivery vehicles and Heavy Good Vehicles(HGVs) using the Strategic Roads, and the network is prone to severe congestion in rush hours in many locations. Reducing numbers of vehicles on some routes and at some junctions through the use of electronic road pricing is more prudent for improving conditions for those who must move by vehicle. Residential roads in many places are riddled with potholes and the scars of poor work by utilities and their contractors. Spending on any new trunk roads does not deal with this.

Bus lanes should certainly accommodate motorcycles and already are in use by cyclists. This means that bus lanes only being needed as bus lanes during periods of bus services is simply wrong. Like traffic signals keeping drivers waiting rather than pedestrians and cyclists, priority has to go to the most vulnerable road users not those who have wrapped themselves up in an SUV or the prevalent white vans so often favoured by construction workers.

Enforcement needs to ensure that the most congested, most polluted areas attract electronic road pricing at levels sufficient to deter most of those who could use other options. 'Unfair enforcement' sounds like dignifying griping by drivers whose behaviours may need correction.

Easier parking would follow from reducing total vehicle movements within settlements. The Government should introduce a pavement (aka sidewalk) parking ban, as already in use in London, with electronic road pricing to substitute for fuel duties as more vehicles are EVs, and use other traffic calming measures such as pedestrianisation, low-traffic neighbourhoods, more cul de sacs and reducing car parking in central areas.

The right to challenge car parking policies or charges set by local authorities is needless and should be abolished, not expanded in scope. Ordinary consultation processes should be sufficient. Parking charges have been raised by local authorities as Government cut the Revenue Support Grant to local councils, diminishing council income. Now, it appears the Governments wants to penalise councils by controlling their parking charge increases – for which it is entirely to blame.

Inconsiderate driving certainly needs attention through driver training and re-training where necessary. As a cyclist, it's difficult to avoid seeing some drivers on any journey showing signs of anger at other road users. There appears to be a small minority of drivers who are aggressive, impatient and unrealistic about rush hour-school run conditions in particular. Driver training needs to consider whether some drivers are calm enough to be on the road at all.

CONCLUSION

In conclusion, it can be reiterated that 'The Plan for Drivers' is not a plan, or a strategy, or an effective discussion document with uniformly realistic options. An unwritten assumption that car drivers all want the same things runs through this Plan. But car drivers may well want quiet, low traffic residential neighbourhoods where they themselves live; school streets to help protect their children; 'Vision Zero' for traffic accidents; reliable, timely delivery of goods from online businesses by ecargo bikes; no SUV or other parking obstructions in their neighbourhood; no pavement (sidewalk) parking cutting off the pedestrian routes they use. No one is a car driver 24/7. Of course, if the intention of the Plan is to try to foster more culture wars around traffic issues, then its shallowness may be considered to be explained.

Author Details:

Steve Dawe is a retired interdisciplinary social science lecturer, community transport activist, notably via Cowley Area Transport Group, Oxford: www.catg.org.uk

REFERENCES

20 is Plenty (accessed 31st March 2023) Big benefits from 20mph on faster roads. https://www.20splenty.org/big_speed_reductions.

Asphalt Industry Alliance (19th March 2024) Annual Local Authority Road Maintenance (ALARM) survey report, https://lcrig.org.uk/2024/03/19/alarm-survey-2024-carriageway-repairs-backlog-increases-to-a-record-high-of-16-3-billion/.

Batchelor, Tom (21st May 2019) - Cyclist numbers fall across England as ministers urged to double cycle spending. https://www.independent.co.uk/news/uk/home-news/cycling-england-london-bicycle-bike-transport-figures- a9029761.html#:~:text=The%20government%20currently%20spends%20%C2%A37%20per%20head%20per,th e%20%C2%A318%20per%20head%20spent%20in%20the%20capital.

BBC (24th November 2022) - London LTNs: Pollution and traffic down in surrounding areas, research shows - https://www.bbc.co.uk/news/uk-england-london-63729618.

Carbon Brief (16th March 2023) - Analysis: Fuel-duty freezes have increased UK CO2 emissions by up to 7%. https://www.carbonbrief.org/analysis-fuel-duty-freezes-have-increased-uk-co2-emissions-by-up-to-7/.

Coalition for Healthy Streets and Active Travel (2022) Majority of Oxford public back low traffic neighbourhoods. https://cohsat.org.uk/majority-of-oxford-public-back-low-traffic-neighbourhoods/.

Cowley Area Transport Group (2017) Electronic Road Pricing for Oxford, at: https://www.catg.org.uk/reports/.

Cycling UK (latest figures from different years). https://www.cyclinguk.org/statistics.

Department for Transport(2023) – Plan for Drivers. https://www.gov.uk/government/publications/plan-for-drivers.

Low Traffic Future (2023) – Local action for a Low Traffic Future; local transport plans: a guide for councillors and campaigners, 2023. https://lowtrafficfuture.org.uk/portfolio-items/local-transport-plans/.

MacMichael, Simon (20th August 2021) Huge boost to active travel in Scotland as SNP and Greens pledge to spend nearly £60 per person per year. https://road.cc/content/news/scotland-get-ps60-head-annual-spend-active-travel-285783.

Milner, David (September 2023) Create Streets - Moving Towards Growth: why it's time to build on Britain's Roadbelt: The economic cost of roads and the value of streets https://www.createstreets.com/wp-content/uploads/2023/09/Moving-towards-growth_080923.pdf?link_id=26&can_id=5e4bc0fed6c3dc2db42c6f59fdc3526c&source=email-tan-september-newsletter&email_referrer=email_2066144&email_subject=tan-october-newsletter.

Oxford Mail (13th October 2023) - https://www.oxfordmail.co.uk/news/23854350.oxford-city-centre-bounce-back-footfall-bucking-trend/.

Possible (2023) -Tractor Attack: Fairness in pricing traffic pollution and rising SUV emissions in Kensington & Chelsea and beyond. https://www.wearepossible.org/our-reports/tractor-attack.

Reid, Carlton (2023) Latest polling shows overwhelming public support for LTNs. https://www.forbes.com/sites/carltonreid/2023/07/13/latest-polling-shows-overwhelming-public-support-for-ltns/?sh=1f666e811551.

Reid, Carlton (26th July, 2023) – Shelve major new roads to fix potholes instead, UK Parliament Transport Committee tells DfT. https://www.forbes.com/sites/carltonreid/2023/07/26/shelve-major-new-roads-to-fix-potholes-instead-uk-parliaments-transport-committee-tells-dft/.

Royal Automobile Club (023) RAC Report of Motoring 2023: https://www.rac.co.uk/report-on-motoring.

Royal Automobile Club (16th January 2023) Press Release – Traffic expected to grow under all scenarios. https://www.racfoundation.org/media-centre/traffic-expected-to-grow-under-all-scenarios-dft#:~:text=Road%20traffic%20in%20England%20and%20Wales%20could%20grow,most%20modest%20estimate%20being%20an%20increase%20of%208%25.

Shipton, Martin (16th September 2023) Statistics deliver blow to Welsh 'active travel' policy. https://nation.cymru/news/statistics-deliver-blow-to-welsh-active-travel-policy/.

Singapore, Government of Singapore (accessed 31st March 2024) Electronic Road Pricing - https://www.mot.gov.sg/what-we-do/motoring-road-network-and-infrastructure/Electronic-Road-Pricing.

Standing Advisory Committee on Trunk Road Assessment(1994) Trunk Roads and the Generation of Traffic. https://search.worldcat.org/search?q=bn:0115516131.

Street Voice, a citizen's jury on transport, health and climate change in Oxford – (September 2022). https://www.gchu.org.uk/street-voice/.

Sustrans (19th May 2023) Don't be fooled by the Government's 'good news'. https://www.sustrans.org.uk/our-blog/news/2023/may/don-t-be-fooled-by-the-government-s-good-news/#:~:text=Funding%20cuts%20announced%20in%20a%20written%20ministerial%20statement,to%20%C2%A350%20million%2C%20and%20the%20same%20for%202024%2F25.

Sustrans (2019) – Health benefits of cycling and walking. https://www.sustrans.org.uk/our-blog/get-active/2019/everyday-walking-and-cycling/health-benefits-of-cycling-and-walking/.

UK Government (2021) National Travel Survey 2021 mode share, journey lengths and public transport use - https://www.gov.uk/government/statistics/national-travel-survey-2021/national-travel-survey-2021-mode-share-journey-lengths-and-public-transport-use.

UK Government (2022) 'Physical Health' section of Local Authority Toolkit for Active Travel: https://www.gov.uk/government/publications/active-travel-local-authority-toolkit/active-tavel-local-authority-toolkit.

UK Government (2023) – Cycling Traffic Index, England. https://www.gov.uk/government/statistics/cycling-index-england/cycling-index-england.

UK Government (2024) Low Traffic Neighbourhood Review. https://www.gov.uk/government/publications/low-traffic-neighbourhood-review.

Vision Zero (Accessed 31st March 2023). https://www.brake.org.uk/how-we-help/national-campaigns/the-change-we-want/vision-zero.

Metro – Tube – Underground – U–Bahn – Subway – The El:

Whatever term you use, what do you know about them?

Trivia Questions

1. Where and when was the first underground urban railroad in the world?

2. Where and when was second underground urban railroad?

3. Where and when was the first electrified underground railroad?

4. Where and when was the second electrified underground railroad?

5 List these cities in the order their underground rail began operation: Boston, Chicago, New York, Philadelphia.

6. List these cities in the order their underground railways began operation: Athens, Berlin, Budapest, Glasgow, Istanbul, London, Paris

7. Where and when was the first urban metro to be built outside of Europe or North America?

8. What is the oldest metro in Asia?

9. What is the oldest metro in China?

10. How many new metro systems (i.e., in new cities) have been built in China since

11. How many new kilometers of metro lines were opened in China in December 2021?

12. Which is the longest metro in the world (kilometers)?

Continue...

Photo Credit: *Frank Lam, Metro, 2024.* https://unsplash.com/photos/a-group-of-people-standing-next-to-each-other-on-a-train-hoi7cRskS3k.

13. Which is the longest metro outside of China and So Korea (kilometers)?

14. Which metro system has the most stations and how many?

15. How many metros offer 24 hour service on at least one line ?

16. Where did the term "metro" come from?

Photo Credit: *Petar Avramoski, Paris, France, 2021.* https://unsplash.com/photos/people-walking-on-train-station-bUHBiTI9vbw.

Editor's note: If you disagree with any of the answers (or want to add more nuance), upload your revised answer and documentation here: [https://transportationchoicesforsustainablecommunities.submittable.com/submit], and title it "Triiva-response -your name". Please also upload your source (or screenshot of your source) and the page number with the clarifying fact.

ANSWERS

1. London Underground, 1863
2. Istanbul, 1875 (Tünel is not only the world's second underground railway aka subway, but also it is the first of the modern funiculars)
3. London, 1890
4. Chicago, USA, 1897
5. Chicago, Boston, New York, Philadelphia
6. London, Istanbul, Budapest, Glasgow, Paris, Berlin, Athens.
7. Buenos Aires, Argentina, 1913
8. Tokyo, 1927
9. Beijing, 1969
10. 28
11. 499 km
12. Beijing and Shanghai keep trading places, currently Beijing at 816km then Shanghai at 796 km.
13. Moscow (515 km) (beats London's 402 km and New York's 399 km)
14. New York City, 468 (424 if interchange stations, i.e. different sets of platforms, are counted as one station)
15. 4 – (New York since the beginning in 1904; Chicago currently only the blue line, London since 2015, Copenhagen since it first began operations in 2002
16. Paris Metro appears to be the first to use the term 'metro', which was abbreviated from its original operating company's name *Compagnie du chemin de fer métropolitain de Paris*.

Main Sources: https://www.theguardian.com/cities/gallery/2014/sep/10/-sp-history-metro-pictures-london-underground-new-york-beijing-seoul.

https://www.civitatis.com/blog/en/10-oldest-subways-world/.

https://www.railway-technology.com/features/worlds-oldest-metro-systems/.

https://en.wikipedia.org/wiki/List_of_metro_systems.

https://www.roadtopic.com/which-chicago-lines-are-underground/.

https://www.railjournal.com/passenger/metros/new-metro-lines-open-across-china/.

https://en.wikipedia.org/wiki/Urban_rail_transit_in_China.

Global Action Plan on Physical Activity 2018–2030: More Active People For A Healthier World

ISBN 978-92-4-151418-7 • © World Health Organization 2018

The following consists of excerpts from WHO Global Action Plan on Physical Activity 2018–2030 (GAPPA) which have direct connection to Sustainable Transportation and reducing the harm caused by automobile dependence. In particular we have extracted the proposed actions for Member States: specific actions that governments at all levels can implement to increase physical activity in their countries. These excerpts are reprinted here under the terms of the CC BY-NC-SA 3.0 IGO license, which allows for the copying, redistributing and adaption of the work for non-commercial purposes, provided the work is appropriately cited.

We encourage all to download the full document from:
https://iris.who.int/bitstream/handle/10665/272722/9789241514187-eng.pdf?sequence=1

BACKGROUND

Regular physical activity is a well-established protective factor for the prevention and treatment of the leading noncommunicable diseases (NCDs), namely heart disease, stroke, diabetes and breast and colon cancer. It also contributes to the prevention of other important NCD risk factors such as hypertension, overweight and obesity, and is associated with improved mental health delay in the onset of dementia and improved quality of life and well-being.

Photo credit: Bruno Nascimento, Juiz de Fora, Brazil, 2016.
https://unsplash.com/photos/person-wearing-orange-and-gray-nike-shoes-walking-on-gray-concrete-stairs-PHIgYUGQPvU.

MANDATE

In 2013, the World Health Assembly endorsed a global action plan on the prevention and control of NCDs, and agreed a set of nine global voluntary targets, which include a 25% reduction of premature mortality from NCDs and a 10% relative reduction in the prevalence of insufficient physical activity by 2025.

FRAMEWORK FOR ACTION

This global action plan sets out four strategic objectives achievable through 20 policy actions that are universally applicable to all countries, recognizing that each country is at a different starting point in their efforts to reduce levels of physical inactivity and sedentary behaviour.

(Appendix 2 contains) Recommended actions for WHO Member States, the WHO secretariat and other stakeholders to achieve implementation of the Global Action Plan on Physical Activity 2018-2030.

FRAMEWORK FOR ACTION

Four strategic objectives and 20 Policy Actions

Four strategic objectives provide a universally applicable framework for the 20 multidimensional policy actions, each identified as an important and effective component of a population-based response to increasing physical activity and reducing sedentary behaviour. In combination, they capture the whole-of-system approach required to create a society that intrinsically values and prioritizes policy investments in physical activity as a regular part of everyday life.

The four strategic objectives are:

1. Create active societies
2. Create active environments Spaces and Places
3. Create active people
4. Create active systems

To achieve these four objectives, 20 evidence-based policy actions are recommended and listed below. The recommended specific roles for the WHO Secretariat, WHO Member States and other stakeholders to support implementation are outlined for each action in Appendix 2.

Editor's note: All 20 Policy Actions are reprinted below. In addition the Proposed Actions For Member States from Appendix 2 which pertain to sustainable transportation or reducing the harm caused by automobiles are shown below as bullets under the pertinent Policy Action. These are specific actions that governments at all levels can implement, which we hope will be an inspiration to all readers to help their communities adopt similar measures. Refer to Appendix 2 of the full document for Proposed Actions for WHO Secretariat and for Stakeholders (NGOs, civil society organizations, academic and research community, donors, international and regional development organizations, cities and municipalities, private sector entities)

OBJECTIVE 1. CREATE ACTIVE SOCIETIES:

Four policy actions are proposed which aim to create positive social norms and attitudes and a paradigm shift in all of society by enhancing knowledge and understanding of, and appreciation for, the multiple benefits of regular physical activity, according to ability and at all ages.

Policy Action 1.1:

Implement best practice communication campaigns, linked with community-based programmes, to heighten awareness, knowledge and understanding of, and appreciation for, the multiple health benefits of regular physical activity and less sedentary behaviour, according to ability, for individual, family and community well-being.

Photo credit: Martins Zemlickis, Brussels marathon runners, Belgium, 2016. https://unsplash.com/photos/people-running-on-road-during-daytime-NPFu4GfFZ7E.

Policy Action 1.2:

Conduct national and community-based campaigns to enhance awareness and understanding of, and appreciation for, the social, economic, and environmental co-benefits of physical activity, and particularly more walking, cycling and other forms of mobility involving the use of wheels (including wheelchairs, scooters and skates) and thereby make a contribution to achievement of the 2030 Agenda for Sustainable Development.

- PROPOSED ACTIONS FOR MEMBER STATES
- Support and, where appropriate, partner with, national, regional and international campaigns on issues related to physical activity, such as Breathe Life (air quality),1 Vision Zero (road safety),2 Transport Delivers (sustainable transport),3 and Trees for Cities.

Policy Action 1.3:

Implement regular mass participation initiatives in public spaces, engaging entire communities, to provide free access to enjoyable and affordable, socially- and culturally-appropriate experiences of physical activity.

- PROPOSED ACTIONS FOR MEMBER STATES
- Implement free, universally accessible, whole-of-community events that provide opportunities to be active in local public spaces and which aim to cultivate positive experiences and build competencies, particularly in the least active. Examples include temporary or permanent closure of the road network to motorized vehicles for use for walking, cycling and other recreational activities (such as Ciclovia,1 or Street Play2); free activities in local parks, beaches and other public open spaces (e.g. ParkRun, community walks); mass participation in events in sports, traditional, culturally important activities (e.g. yoga, tai chi, dance, fun runs), as well as other innovative activities.

Policy Action 1.4:

Strengthen pre- and in-service training of professionals, within and outside the health sector, to increase knowledge and skills related to their roles and contributions in creating inclusive, equitable opportunities for an active society including, but not limited to, the sectors of: transport, urban planning, education, tourism and recreation, sports and fitness, as well as in grassroots community groups and civil society organizations.

- PROPOSED ACTIONS FOR MEMBER STATES
- Partner with road safety experts to strengthen stakeholders' understanding of safe systems approaches to improving road safety for pedestrians, cyclists and public transport users, in alignment with The Decade of Road Safety (2).

OBJECTIVE 2. CREATE ACTIVE ENVIRONMENTS

Create and maintain environments that promote and safeguard the rights of all people, of all ages, to have equitable access to safe places and spaces, in their cities and communities, in which to engage in regular physical activity, according to ability.

Five policy actions address the need to create supportive spaces and places that promote and safeguard the rights of all people, of all ages and abilities, to have equitable access to safe places and spaces in their cities and communities in which they can engage in regular physical activity.

Photo Credit: *Miguel A. Amutio, 2021.* https://unsplash.com/photos/people-running-on-gray-asphalt-road-during-daytime-QDv-uBc-poY.

Photo Credit: *Chander R, 2019. https://unsplash.com/photos/man-in-yellow-tank-top-running-near-shore-z4WH11FMfIQ.*

Policy Action 2.1:

Strengthen the integration of urban and transport planning policies to prioritize the principles of compact, mixed-land use, at all levels of government as appropriate, to deliver highly connected neighbourhoods to enable and promote walking, cycling, other forms of mobility involving the use of wheels (including wheelchairs, scooters and skates) and the use of public transport, in urban, peri-urban and rural communities.

- PROPOSED ACTIONS FOR MEMBER STATES
- All levels of government should, as appropriate, prioritize walking, cycling and public transport as preferred modes of travel in relevant transport, spatial and urban planning policies, especially those related to urban centres.
- Support the development and implementation of planning and transport policy, guidelines and regulations that redistribute, as appropriate, urban space from private motorized transport to support increased walking, cycling and use of public transport, as well as provision of public open and green spaces, including regulations to limit car parking options for singular occupancy private vehicles.

Policy Action 2.2:

Improve the level of service1 provided by walking and cycling network infrastructure, to enable and promote walking, cycling, other forms of mobility involving the use of wheels (including wheelchairs, scooters and skates) and the use of public transport, in urban, peri-urban and rural communities, with due regard for the principles of safe, universal and equitable access by people of all ages and abilities, and in alignment with other commitments.

Policy Action 2.3:

Accelerate implementation of policy actions to improve road safety and the personal safety of pedestrians, cyclists, people engaged in other forms of mobility involving the use of wheels (including wheelchairs, scooters and skates) and public transport passengers, with priority given to actions that reduce risk for the most vulnerable road users in accordance with the safe systems approach to road safety, and in alignment with other commitments.

- PROPOSED ACTIONS FOR MEMBER STATES
- Support the strengthening, where appropriate, of national road safety legislation and action plans, consistent with the Decade of Action on Road Safety 1 and the global road safety targets 1 and 2. 2.
- Collaborate and support the strengthening, as appropriate, of road transport systems in accordance with principles of safe systems 3 as recommended in the Decade of Action on Road Safety to enable achievement of global road safety targets, specifically targets 3, 4, 6, 9 and 10. 4.
- Support the implementation and strengthening of the enforcement of traffic speed restrictions (e.g. 30 km/hr in all residential neighbourhoods and 50 km/hr on urban roads), as well as other traffic calming interventions and demand management strategies, with a priority focus on travel routes around education facilities.
- Partner and implement effective sustained education and social marketing campaigns aimed at increasing safe behaviours among all road users, notably driver behaviour to reduce speed, and reduce the use of mobile devices and consistent with Vision Zero.

Policy Action 2.4:

Strengthen access to good-quality public and green open spaces, green networks, recreational spaces (including river and coastal areas) and sports amenities by all people, of all ages and of diverse abilities in urban, peri-urban and rural communities, ensuring design is consistent with these principles of safe, universal, age-friendly and equitable access with a priority being to reduce inequalities and in alignment with other commitments.

- PROPOSED ACTIONS FOR MEMBER STATES
- Promote and enforce urban planning, land use and spatial policy at all levels of government, as appropriate, that requires the provision of a connected network of green infrastructure that enables equitable access to quality, safe public space, blue space1 and green open spaces, natural spaces, recreational areas and sports facilities.
- Implement comprehensive health and economic assessments of public and green open spaces and natural spaces to evaluate the full range of health, climate and environmental benefits of urban ecosystems, including their impact on physical activity participation.
- Facilitate the active engagement of community members in the location, design and improvement of public, green, natural, open and recreational spaces, including for example in urban gardening/agriculture projects, initiatives to enhance biodiversity, and the development of "open streets" programmes.

Policy Action 2.5:

Strengthen the policy, regulatory and design guidelines and frameworks, at the national and subnational levels, as appropriate, to promote public amenities, schools, health care, sports and recreation facilities, workplaces and social housing that are designed to enable occupants and visitors with diverse abilities to be physically active in and around the buildings, and prioritize universal access by pedestrians, cyclists and public transport.

Photo Credit: *Walter Martin, Chicago, IL, USA, 2022.* https://unsplash.com/photos/a-person-riding-a-bike-down-a-dirt-road-V20O6ApTeWg.

OBJECTIVE 3. CREATE ACTIVE PEOPLE

Create and promote access to opportunities and programmes, across multiple settings, to help people of all ages and abilities to engage in regular physical activity as individuals, families and communities.

Six policy actions outline the multiple settings in which an increase in programmes and opportunities can help people of all ages and abilities to engage in regular physical activity as individuals, families and communities.

Policy Action 3.1:

Strengthen provision of good-quality physical education experiences and opportunities for active recreation, sports and play for girls and boys, applying the principles of the whole-of-school approach in all pre-primary, primary, secondary and tertiary educational institutions, to establish and reinforce lifelong health and physical literacy, and promote the enjoyment of, and participation in, physical activity, according to capacity and ability.

- PROPOSED ACTIONS FOR MEMBER STATES
- Promote walk and cycle to school programmes which include actions to improve access by walking, cycling and public transport, and strengthen the promotion of walking; cycle training; and teaching road safety skills to children of all ages and abilities.

Policy Action 3.2:

Implement and strengthen systems of patient assessment and counselling on increasing physical activity and reducing sedentary behaviour, by appropriately trained health, community and social care providers, as appropriate, in primary and secondary health care and social services, as part of universal health care, ensuring community and patient involvement and coordinated links with community resources, where appropriate.

Policy Action 3.3:

Enhance provision of, and opportunities for, more physical activity programmes and promotion in parks and other natural environments (such as beach, rivers and foreshores) as well as in private and public workplaces, community centres, recreation and sports facilities and faith-based centres, to support participation in physical activity, by all people of diverse abilities.

Policy Action 3.4:

Enhance the provision of, and opportunities for, appropriately tailored programmes and services aimed at increasing physical activity and reducing sedentary behaviour in older adults, according to ability, in key settings such as local and community venues, health, social and long-term care settings, assisted living facilities and family environments, to support healthy ageing.

Policy Action 3.5:

Strengthen the development and implementation of programmes and services, across various community settings, to engage with, and increase the opportunities for, physical activity in the least active groups, as identified by each country, such as girls, women, older adults, rural and indigenous communities, and vulnerable or marginalized populations, embracing positive contributions by all people.

Policy Action 3.6:

Implement whole-of-community initiatives, at the city, town or community levels, that stimulate engagement by all stakeholders and optimize a combination of policy approaches, across different settings, to promote increased participation in physical activity and reduced sedentary behaviour by people of all ages and diverse abilities, focusing on grassroots community engagement, co-development and ownership.

- PROPOSED ACTIONS FOR MEMBER STATES
- Strengthen or establish national and/or subnational (municipality or local authority) networks of cities and communities implementing whole-of-community approaches to promote physical activity and share guidelines, resources and experiences (e.g. WHO Healthy Cities, Active Cities, Partnerships for Healthy Cities.

OBJECTIVE 4. CREATE ACTIVE SYSTEMS

Create and strengthen leadership, governance, multi-sectoral partnerships, workforce capabilities, advocacy and information systems across sectors to achieve excellence in resource mobilization and implementation of coordinated international, national and subnational action to increase physical activity and reduce sedentary behaviour.

Five policy actions outline the investments needed to strengthen the systems necessary to implement effective and coordinated international, national and subnational action to increase physical activity and reduce sedentary behaviour. These actions address governance, leadership, multi-sectoral partnerships, workforce capabilities, advocacy, information systems and financing mechanisms across all relevant sectors.

Policy Action 4.1:

Strengthen policy frameworks, leadership and governance systems, at the national and subnational levels, to support implementation of actions aimed at increasing physical activity and reducing sedentary behaviours, including multi-sectoral engagement and coordination mechanisms; policy coherence across sectors; guidelines, recommendations and actions plans on physical activity and sedentary behaviour for all ages; and progress monitoring and evaluation to strengthen accountability.

- PROPOSED ACTIONS FOR MEMBER STATES
- Partner with other sectors to review and, where needed, strengthen the position of physical activity within respective policy frameworks, including but not limited to community and grass roots sports within sports policy, walking and cycling within transport policy, physical education within education policy, and physical activity within integrated NCD and mental health policies.

Photo Credit: *Ignacio Brosa, Munich, Germany, 2020.* *https://unsplash.com/photos/people-playing-soccer-on-green-grass-field-during-daytime-vJDbPuxUS_s*.

Photo Credit: *Benjamin Elliott, Sheffield, UK, 2023.*
https://unsplash.com/photos/a-couple-of-people-walking-down-a-street-next-to-tall-buildings-nl4mr4emfFs.

Policy Action 4.2:

Enhance data systems and capabilities at the national and, where appropriate, subnational levels, to support: regular population surveillance of physical activity and sedentary behaviour, across all ages and multiple domains; development and testing of new digital technologies to strengthen surveillance systems; development of monitoring systems of wider sociocultural and environmental determinants of physical inactivity; and regular multi-sectoral monitoring and reporting on policy implementation to ensure accountability and inform policy and practice.

- PROPOSED ACTIONS FOR MEMBER STATES
- Strengthen population surveillance of physical activity ensuring coverage of all ages and domains of physical activity (including walking and cycling for transport) and the regular reporting of progress towards achieving targets set for reducing physical inactivity by 2025 and 2030.

Policy Action 4.3:

Strengthen the national and institutional research and evaluation capacity and stimulate the application of digital technologies and innovation to accelerate the development and implementation of effective policy solutions aimed at increasing physical activity and reducing sedentary behaviour.

Policy Action 4.4:

Escalate advocacy efforts to increase awareness and knowledge of, and engagement in, joint action at the global, regional and national levels, targeting key audiences, including but not limited to high-level leaders, policy-makers across multiple sectors, the media, the private sector, city and community leaders, and the wider community.

Policy Action 4.5:

Strengthen financing mechanisms to secure sustained implementation of national and subnational action and the development of the enabling systems that support the development and implementation of policies aimed at increasing physical activity and reducing sedentary behaviour.

- PROPOSED ACTIONS FOR MEMBER STATES
- Collaborate across ministries to identify or develop dedicated financing mechanisms to support multi-sectoral approaches and policy actions on physical activity. For example, implementation of a fixed proportion of total annual transport budgets allocated to fund walking and cycling network infrastructure; implementation of a fixed proportion of the annual national sports budget allocated to community and grassroots sports participation; funding of a national physical activity lottery; and use of "social impact bonds".

Source: Read more about the WHO initiative here: https://www.who.int/publications/i/item/9789241514187.

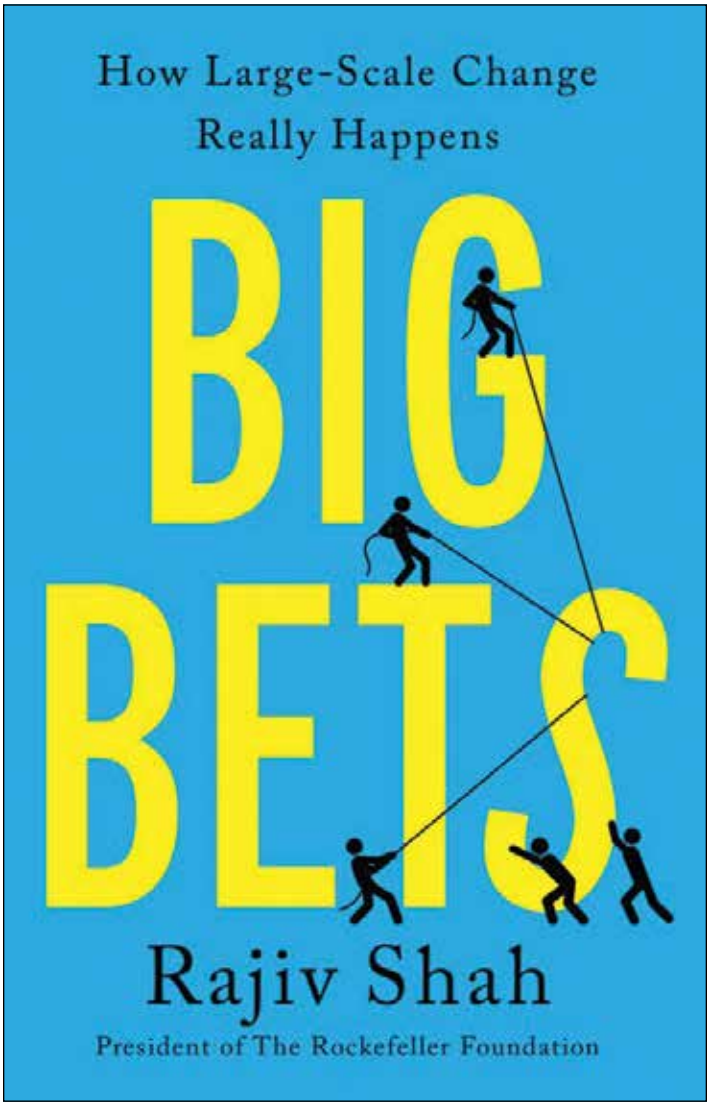
BIG BETS:
HOW LARGE-SCALE CHANGE REALLY HAPPENS

WRITTEN BY DR. RAJIV J. SHAH
REVIEWED BY MICHELLE DEROBERTIS

S&S/Simon Element • October 10, 2023 • 288 pages
ISBN: 9781668004388

ABOUT THE AUTHOR

Rajiv Shah serves as president of the Rockefeller Foundation and from 2009 to 2015 was administrator of the US Agency for International Development.



Big Bets was written on the premise that sometimes we need to think big and boldly rather than settling for baby steps. In this way we can attract *"partners with the power, resources, and the know-how to achieve transformational change"*. In 2002, the author worked with the Bill Gates Foundation and the Global Alliance for Vaccines and Immunization (GAVI) whose goal was to eradicate polio worldwide. Their approach was to not be intimidated by the prospect of how to accomplish such a huge task but to start by asking simple questions.

Photo credit: *Roger Bradshaw, Turning Point and dead end road sign, Leicestershire, UK. 2020.* https://unsplash.com/photos/white-and-red-no-smoking-sign-1PPoNhMzAmY.

Big Bets is organized around eight key points, each with its own chapter which focuses on a real life example from the author's career and with hints at the end of each chapter to help accomplish each step.

I read this book through the lens of what we sustainable transportation professionals and advocates can take away from this approach. Many lessons are transferable such as identifying obstacles that can be changed or removing unnecessary bureaucracy, as described in Chapter 3 ***Opening the Turnstiles***. Chapter 4 ***Make it Personal*** describes the importance of recruiting allies and gives strategies to do so.

The author concludes with:

"In these stories, I hope you've seen that it's possible to solve major problems by identifying novel solutions, building and maintaining unlikely alliances to unlock progress, and sticking with it until the bold goal is achieved.... They proved that with the right answers, sufficient partners, and a fierce commitment to measuring results, we can solve the problems we face as neighbors, nations, and even as a species." (p. 214)

"But when you have the big bet mindset—and even more when you launch and make good on your own big bets—you'll feel differently about the world; it will feel smaller, more malleable, less constrained than it did at first. You'll feel less cynical , less powerless, less pessimistic. You'll believe it's realistic to be optimistic."..... "You will help those around you reimagine what's possible.....Challenges will seem more like opportunities." (p. 220)

Photo credit: *Mika Baumeister, Eco! Not Ego, 2021.* https://unsplash.com/photos/people-walking-on-street-during-daytime-f3iV8JVrsP8.

I encourage people to read this book as inspiration for new ways of looking at how to solve problems— and we all know there's still lots of problems to be solved in the transportation sector. We need many minds working from as many different angles as possible to solve the problems of reaching the goals of the three zeroes:

- **zero deaths**
- **zero air pollution**
- **zero carbon**

Author Details:

Michelle DeRobertis PhD, P.E. is a transportation engineer and planner. She is one of the founding principals of Transportation Choices for Sustainable Communities and is a Research Associate at the Mineta Transportation Institute at San Jose State University, California, USA. She also currently serves as Editor of WTPP.

Photo credit*: Tim Foster, Take a larry, Shibuya, Tokyo, Japan, 2019.* https://unsplash.com/photos/vehicle-on-road-during-daytime-ldsAHwkVeZI.

UK English vs American English

We have made the editorial decision to let authors write in the English of their choice. We will not be editing word choice or spelling to either UK English or American English; we will retain the English style chosen by the author. This means that English usage may be inconsistent within a single issue. Therefore we provide this legend of primarily transportation terms to help not only non-native speakers but native speakers as well. However in the interest of clarity, we will try to put **sidewalk** in parentheses after the British use of **pavement** since these two words have opposite meanings in American English.

UK	USA	Canada
Word choice		
pavement	sidewalk	sidewalk
road surface	pavement	pavement
motorway	freeway, interstate	freeway
dual carriageway	divided highway	divided highway
main road	highway	highway
coach	bus	bus
Petrol, diesel	gas/gasoline	gas/gasoline
public transport	public transportation, transit	public transportation, transit
lift	elevator	elevator
boot (of a car)	trunk (of a car)	trunk (of a car)
bonnet (of a car)	hood (of a car)	hood (of a car)
barrister, solicitor	attorney, lawyer	attorney, lawyer
Lorry, artics/semi-trailer [1]	Truck [1]	truck, semi [1]
return (ticket) (transit context)	round trip	round trip
underground; underground railway [2]	Subway [2]	subway, metro [2]
puncture	flat tire, flat	flat
tyre	tire	tire
Spelling		
kerb	curb	curb
-ence (defence, licence, offence)	-ense (defense, license, offense)	follows USA
-our (colour, honour, labour, neighbour)	-or (color, honor, labor, neighbor)	follows UK
-ise; (e.g., prioritise, organise)	-ize (prioritize, organize)	follows USA
- yse (e.g., analyse)	-yze (e.g., analyze)	follows USA

[1] Professional papers may differentiate between tractor-trailers, semis, and single-unit trucks

[2] Term used is very colloquial, i.e. Tube in London, Subway in New York, the "L" in Chicago, the "T" in Boston, Metro in Washington DC. Much of Western Europe, regardless of language, calls it *metro*, or at least understands the word.

Photo credit: Giusi Borrasi, Local ride to the beach, Kenya, 2020. https://unsplash.com/photos/man-in-black-and-yellow-floral-shirt-riding-motorcycle-on-road-during-daytime-Na-BqwWLDHU?utm_content=creditShareLink&utm_medium=referral&utm_source=unsplash