

INTEGRATING MOBILITY HEALTH IMPACT IN DECISION-MAKING

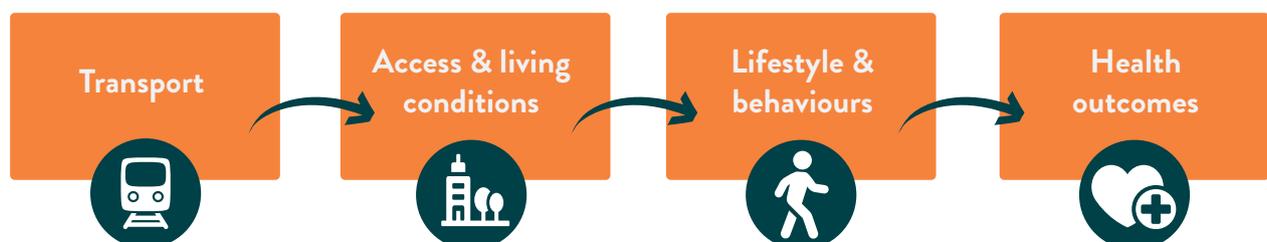
INTRODUCTION

Cars reliance generates adverse effects that negatively impact the health of citizens. This is due to a decoupled decision-making process that does not account for the systemic effect that transports interventions have on the city.

This paper provides Public Transport Authorities (PTA) with guiding principles on how to integrate mobility related health impacts.

THE NATURE OF THE 21ST CENTURY DISEASES

Today's cities dwellers are most likely to die from homicides, car crashes and various Non Communicable Diseases (NCD). NCDs, also known as chronic diseases, differentiate themselves from infectious diseases as they are not passed from person to person. They refer to cardiovascular disease, cancer, chronic lung disease, diabetes, and chronic neurological disorders such Alzheimer and dementia. An extended NCDs' definition would also include mental illnesses as well as injuries. Beyond genetic factors and heredity, it is possible to relate NCDs to lifestyle but more importantly to the environment people live in.



▶ Relationship between transport and health

Adopting an epidemiological perspective there is therefore a need to explore and understand when, where and who is affected to determine the NCDs risk factors and subsequent reduced life expectancy. In this respect, health presents a social gradient that is mirrored in space. According to where we live, we are not all equal in terms of life expectancy and these inequalities manifest at the global, country, city and even at the neighbourhood levels. In Europe, the average life expectancy is lower in eastern and central countries than in Sweden, Norway or Italy. In Japan, between 1990 and 2015 the disparities between the highest and lowest performing prefectures have widened, and this is despite an overall increase in life expectancy at the country level. This relates to political, socioeconomic and environmental factors as the lower socioeconomic classes have higher exposure to injuries and risks related lifestyle. In this respect, the question is “how to generate a fairer society for healthy life?”

Accounting for the nature of the pandemic, health care expenditure will not suffice to face the NCDs of the 21st century. The health challenge is a problem of social inequality and injustice. UITP believes that part of the health solution would consist of equipping cities and their inhabitants with integrated public transport.

EQUIPPING CITIES WITH INTEGRATED PUBLIC TRANSPORT

The idea that equipping cities with integrated public transport would improve the life expectancy of their inhabitants is based on the premise that transport impacts people’s living conditions, which in turn will alter their choice and lifestyle. Beyond funding and investment, this paper will show that we need to rethink the way we conceive transport and mobility in light of the health challenge. Here, the emphasis is less on “equipping” than on the “integrated” character of the action because cities with integrated public transport will enable people to safely choose walking or cycling.

Transport modes shape and structure space. The car enables cities to sprawl and suburbanise; a dispersion phenomenon that involves longer commuting time and social isolation. In contrast, denser cities tend to be healthier. The London School of Economics found that Hong-Kong scored higher in terms of life expectancy than most cities in the world. Thanks to its compact form and efficient public transport system only 6% of the population use cars. More specifically, by favouring short distances with increased residential density, mixed land use, and proximate and enhanced public transport, as well as an urban form that encourages cycling and walking, has resulted in increased DALYs (Disability-Adjusted Life Year) in relation to reduced NCD.

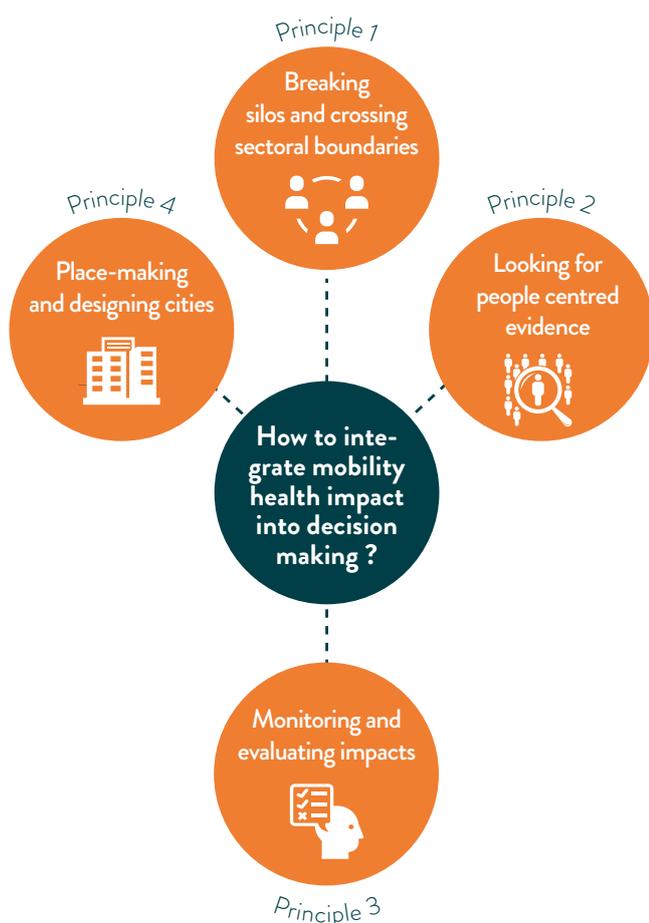
At this point, we can stress the engineering-led character of the discipline which considers transport infrastructure and service delivery in isolation, dominated by a “predict and provide” rationale without any form of coordination with housing and land use. In fact, what is missing here is the integration of transport decisions and interventions. Yet, there seems to be a turn in transport with the emergence of practices such as Transit Oriented Development (TOD). Also, regeneration projects where transport modes are seen as a catalyst to enhance deprived area, are becoming increasingly popular, i.e.: the last UITP Policy Brief, Public Transport as an instrument for urban regeneration. While such practices are promising, they remain patchy and rarely refer to health explicitly. This situation significantly reduces PTAs capacities to tackle mobility related health concerns because there is no governance framework and subsequent mechanisms that allow the different actors and stakeholders to lead a joint-action. In the present paper, we think that to deal effectively with urban mobility related health concerns, we need a coordinated and integrated approach and this is what requires new guidelines. But before, we need to acknowledge the wicked nature of health, in relation to transport.

HEALTH IS A WICKED PROBLEM

A wicked problem is an issue that cannot be formulated in a definitive or universal manner because there is no statement that can contain all information regardless of the context. This refers to the fact that the problem translates differently from place to place. To provide a specific example, in Africa transport related health concerns manifest in terms of road safety and security. This leads to a general question: how the relationship between health concerns and mobility should be framed for developing cities, especially as they follow a specific urbanisation process where population growth is often uncontrolled? This relates to the dynamics of cities and the way they develop. The city could be seen as a system that relies on diverse components and their relationships to form a complex whole whose functioning and evolution might be impossible to foresee. In this context, health outcomes depend on a multiplicity of associations, which impede the isolation of causal relationship between independent factors. In result, it is difficult to predict in detail the health impacts of transport interventions, which emerge ex-post out of a series of feedback loops, as unintended consequences. In such a setting, ambiguity and uncertainty are pervasive, there is no one single right answer or action to be taken leading to a high level of indeterminacy.

What is now clear is that health is a local issue that depends on the way transport is organised at the city level, and more specifically on the extent to which local institutions integrate transport.

Still, no universal framework exists since health as the conditions of living pertain to time and space and might not allow for standard response when it comes to what should be done in the transport domain. Health, a wicked problem, challenges traditional modes of governance and management. There is a need for an alternative approach. In consequence, the next part of this paper develops a standpoint that consists of four Principles, namely 1) Breaking silos and crossing sectoral boundaries 2) Looking for evidence based on the link between people's health and where they live 3) Monitoring and Evaluating the potential impact of transport intervention on health 4) Place-making and designing cities as people centric environments.



► Principles for integrating the health impacts of mobility into decision making

PRINCIPLE 1: BREAKING SILOS AND CROSSING SECTORAL BOUNDARIES.

This first principle considers traditional modes of governance and management to demonstrate that they are not only inadequate to account for the wicked character of health but are also part of the problem. Most Institutional responses to societal problems rely on expert knowledge to legitimise top down measures that flow along a clear chain of command. It does not only deny the multi-faceted character of health, but also involves adverse effects. First, it conceives the world as a closed system where the city is merely seen as the sum of its parts. In result, organisations tend to be driven by narrowly defined tasks, ignoring the broader implications of their actions. At the system/city level, this infuses a silo mentality and involves a series of interventions that might be divergent. In turn, it increases the pressure for coordination and simplifies the social and political context in which the health problem is handled. The society is increasingly plural in terms of values and individuals are more able to decide what to support rather than adhering to given judgements, even if they are deemed to represent the general interest. Subsequently, the hegemony of experts is contested as well as the actions it used to support. Finally, such a top-down approach is not only ineffective to deal with contemporary mobility related health concerns but also suppresses the freedom of action of the whole nexus of stakeholders, planting the seed for resistance and conflict.

Here, we should focus on the role of Public Transport Authorities (PTAs) and their attitude. In order to integrate the Health Impacts of Urban Mobility into Decision-Making there is a need for change. A first step is to recognise that health is not a problem PTAs can solve on their own, it cuts across the boundaries of existing administrations and therefore requires a joint action. Such a joint action should draw on mutual dependencies and horizontal relationships with a multiplicity of stakeholders, questioning the notion of scales, levels of government and sectoral boundaries. PTAs are subject to the influence of others who might have a different understanding of the problem according to their perspective. In this respect, the case of Greater Manchester is enlightening.

Again, PTAs must seek the widest acceptability of measures as well as synergies and collaboration. This should enable the emergence of a shared vision that is co-constructed from the bottom-up with the different stakeholders over an iterative process. To support such process PTAs should rely on the second principle, namely looking for people centred evidence.

FEASIBILITY STUDIES FOR A CLEAN AIR ZONE IN GREATER MANCHESTER

In Greater Manchester, road traffic is responsible for 65% of nitrogen dioxide (NO_x) emissions. In response to the air quality issue in a range of UK cities, the UK Government released the Air Quality Plan which includes a zero emission vehicles target by 2050. To comply with the national Air Quality Plan, the ten Greater Manchester councils have agreed to collaborate on developing a city region-wide package of measures to tackle the issue, including Clean Air Zone (CAZ) options. At the local level, if implemented, a CAZ would need to also integrate with and support wider plans, supporting local ambitions. This is where the newly revised Transport for Greater Manchester¹ (TfGM) plays its organising role. Without contesting the national initiative, TfGM must ensure the successful implementation, which is the integration, at the local level. Subsequently, working from the bottom up TfGM has both recommended adjustments from the government, such as fiscal incentives to encourage low pollutant performance in urban areas, and coordinated a consistent understanding of the problem and analysis of local policy options across the ten city region councils. This work will culminate in a city region wide Clean Air Plan by the end of 2018. This case is a perfect illustration of an inter-scale dialogue that should lead to a legitimate and acceptable implementation of a national policy.



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PRINCIPLE 2: LOOKING FOR PEOPLE CENTRED EVIDENCE.

Legitimising PTAs actions and intervention is all the more problematic due to ongoing gaps in scientific evidence. For example, there is now a consensus on the need to measure multidirectional relationships between health outcomes and the way we travel. Recently, there is a growing interest for evidence on the link between health and active travel. In the UK, the correlation between active travel policies and a low carbon environment could reduce NHS costs if active travel were to increase. Increased levels of active travel help to reduce obesity and have positive impacts on mental health and overall wellbeing. For the elderly, physical activity sustained over the long term has been associated with reduced levels of memory loss and a reduction in the deterioration of physical ability. In Brazil, recent research looked for the socio-economic determinants of active mobility. Among such determinants was the metropolitan area where people live, whether they own a car, or their level of income. Active travel was shown to be more frequent in low income household. Again the forces that drive choices vary in space. Still there is a need for better data on cycling and walking. Similarly, the last 20 years have been characterised by the proliferation of research on aspects of the urban environment associated with obesity. Whilst such attempts are laudable, experts themselves are cautious with recommendations. First, there is a generalisation issue because no research has adopted a wide enough geographical and demographic representation. Second, the evidence we seek requires large-scale, detailed epidemiological studies with measured outcomes that account for person-centred information on the built environment. Third, the available metrics we use to integrate the built environment are of insufficient quality and lack the conceptual ground that enables the articulation of a robust narrative. Therefore, experts are telling us that they are not always able to make a confident assessment, because their traditional methods and available data are too limited. To resolve this, researchers are looking for innovation in study design, data sources and analytical approach to address the health problem.

Drawing on both, principle 1 and principle 2, we can reflect on the role of evidence and how it relates to the integration of transport. As mentioned before, experts used to legitimise decisions, hence a hegemonic position in the debates. Now, experts realise they must also progress to address the complexity of contemporary health problem and better serve societal goals. This is an important change, it is not acceptable anymore to produce evidence that supports the way we commonly do things; evidence must enter the political realm to trigger new ways of delivering services, fostering synergies between sectors. This is what is happening in Helsinki.

THE LAND USE, HOUSING AND TRANSPORT PLAN OF HELSINKI (MAL)

In Helsinki, transport is part of a long term strategic plan that considers land-use, housing and transport all together: the MAL. To legitimise the MAL, Helsinki draws on the most advanced knowledge and academic research and on health, acknowledging 1) the multidirectional relationships between health outcomes and the way we travel 2) the need to adopt a people-centred perspective that reckons that individual health does depend on a multiplicity of environmental factor that act in combination – the MAL is not based on tracing the effect of transport alone. In the MAL context, Helsinki's PTAs, HSL, works in close collaboration with housing and land-use, crossing departmental boundaries and silos. The MAL supports HSL attitude because it is not a plan that prescribes what HSL's should do but constitutes a synchronisation arrangement between the three parties. The MAL principles aimed at achieving an increased concreteness in the short-term and flexibility in the long-term, setting intermediate goals and establishing synchronization points, ensuring that information is utilized effectively, new studies are conducted with discretion and impact assessment is integrated as a continuous part of the process as well as continuous efforts are made to improve clarity, visualisation and interaction. In result, the MAL requires the production of indicators for the purpose of assessment and monitoring. This constitutes an interesting mind-set's evolution. Helsinki introduces and argues for a third action point: monitoring and evaluating the potential impact of transport intervention on health.



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PRINCIPLE 3: MONITORING AND EVALUATING IMPACTS.

Helsinki's method represents next stage thinking, because it gives prominence to evaluation, which is appropriate to account for the wicked character of health. Again, the city constitutes a complex system whose evolution can turn unpredictable, hence a need for evaluation; namely assessing the impact of decisions and actions. And a need to integrate evaluation results to facilitate learning, ensuring that the same mistakes are not reproduced again and again. To put it simply, what is missing is a critical and reflexive attitude that would systematically question if what we are doing is good and why. The challenge is to observe change and improve our understanding of transport and cities dynamics and how they reflect on people's health, providing an opportunity for PTAs to revise their judgement. This gives relevance to continuous monitoring and ex-post evaluation. Accounting for the multi-stakeholder's context of the health problem, monitoring should foster collaborative learning and become a part of a participatory decision-making process. To this purpose, indicators need to generate narratives that reflect outcomes that are important to the broadest range of stakeholders. This is all the more relevant that the mobility landscape is changing. New app-based on-demand transport as well as the development of autonomous vehicles are likely to alter and diversify travel behaviours, involving an additional layer of uncertainty when it comes to the relationship between transport interventions, the way we move and health.

Systematically monitoring and evaluating the health impact of transport interventions would not only support integrated policies such as Helsinki but also shed light on any practice that might potentially deteriorate but also improve the health of citizens. This could already be achieved in the case of Singapore.

THE PUBLIC TRANSPORT POLICY OF SINGAPORE

Singapore's PTA, the Land Transport Authority (LTA) is leading an integrated public transport policy structured around the rail and the bus system. The target is to make sure that during the peak hours 3/4 of trips will be made by traditional public transport. Yet, LTA acknowledges that public transport cannot fill all needs because these modes cannot provide a door-to-door solution and reduce the perceived need for a car. To enhance public transport performance, LTA decided to rely on the taxi market and new players such as UBER, but also on bikes. Bikes do not constitute a common mode of transport for Singaporeans. This change in perception needs to be developed and nurtured. To this purpose, LTA wanted to provide a public bike sharing system via a tender. However, before the tender could be launched, new players entered the market with a private bike sharing system for the customers. LTA considered this as an opportunity to encourage biking in Singapore and is now in close collaboration with the new players. LTA has invested heavily in infrastructure to build cycling towns to ensure 700 km of dedicated paths are provided by 2030. This has encouraged the use of more active modes of travel such as bikes and personal mobility devices. While LTA does not lead this policy with a specific emphasis on health, it could be seen as virtuous for Singaporean health as if we evaluate it over the long run a positive correlation might emerge.



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So far the principles have addressed the institutional aspect of transport delivery and subsequent impact on health. They recommend some changes in the way transport is delivered. This would foster a new culture that could lead to the implementation of different techniques, including changes to urban design. This is the point of the last principle: place –making and designing cities.

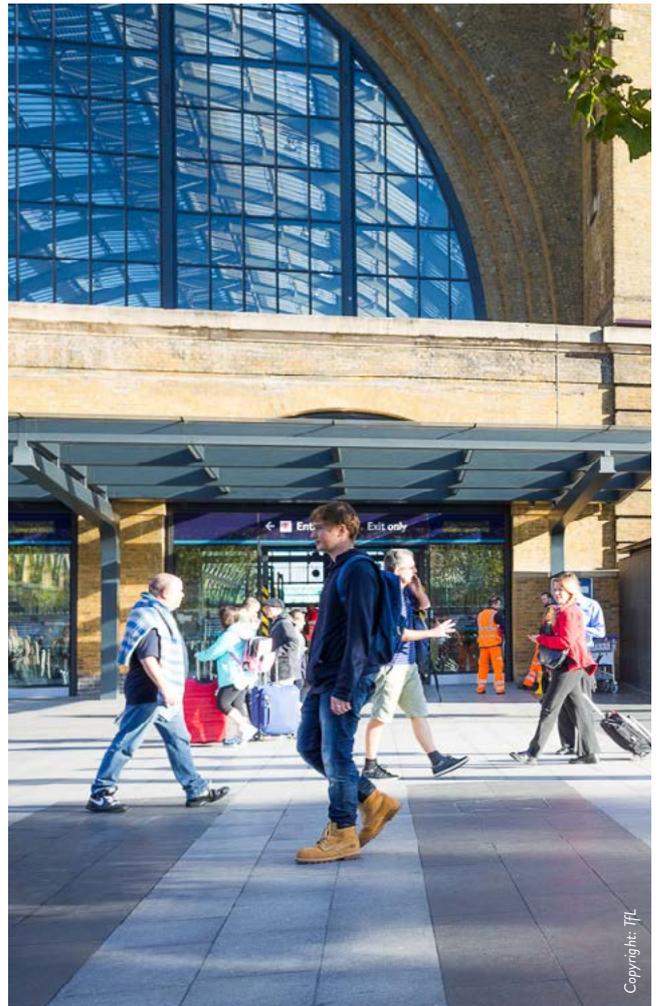
PRINCIPLE 4: PLACE-MAKING AND DESIGNING CITIES

For urban transport to address the health challenge, there is a need for a more balanced and unified contribution from different fields such as engineering, ecology, transport planning, architecture etc. This paper forwarded Action Points/principles to promote integration at the organisational and institutional level. This novel mind-set should also open an avenue for new, multidisciplinary, approaches at the physical level. Urban design is such an approach. Urban design is a process: the art of making better places, dealing with how they look and how they perform.

According to the famous Danish architect Jan Gehl, what is most attractive in cities is activity in human life and social interactions. This standpoint has led to a ban on cars in the main commercial street of Copenhagen, which has since become an important pedestrian zone. This early initiative meets the last UITP policy brief, Ensuring Accessibility of Pedestrian Zone, and its recommendations on how pedestrianizing streets. Instead of configuring cities around cars and high speed travels, the urban design process puts people at the core of successful urban places, especially if they play an active role in guiding decisions. It encourages participation and citizen engagement. Being iterative in nature, urban design is stakeholder inclusive and seeks the integration across all interests. Here, communities are viewed as holding key information and are crucial for framing sound strategies. This contrasts with traditional top-down decision-making process. The Healthy Street approach London is a good example of urban design for health.

HEALTHY STREET APPROACH OF LONDON

Healthy Street is an urban design approach that put people's health at the centre. This is an attitude that let London's PTA, Transport for London (TfL) care about streets. It consists of 10 indicators which aim to create an environment in which everybody is able to participate in public life and where the healthiest and more environmentally transport mode is the first choice. These indicators are interdependent. To meet them, TfL adopts an iterative process where the designer engages with different stakeholders. This enables them to meet all the conditions for better streets, for the citizens. Instead of conceiving the street design in one go, TfL does it step-by-step. The street design emerges over this process. In this way, there is not one street that is similar to another since they are constructed by people to fit the neighbourhood characteristics. This approach is evaluative in essence since TfL can be consistent with the need of the people as the design develops.



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CONCLUSION

Overall, this paper offered four institutional principles to rethink the delivery of transport and mobility services. This attitude, which resonates with the Nobel Prize in Economics that promotes nudging for a fairer and forgiving environment, will ensure that it is easy for everyone to adopt healthier habits, because we can't count on people alone to make the right choice for their health.

SUMMARY OF RECOMMENDATIONS FOR INTEGRATING THE HEALTH IMPACT OF MOBILITY IN DECISION-MAKING

Principle 1: Breaking silos and crossing sectoral boundaries

- Addressing health requires a joint action across local administrations and their organisations to cut across the boundaries of existing structures;
- Such a joint action should draw on mutual dependencies and horizontal relationships with a multiplicity of stakeholders, questioning the notion of scales, levels of government and sectoral boundaries.
- PTAs must seek the widest acceptability of measures as well as synergies and collaboration. This should enable the emergence of a shared vision that is co-constructed from the bottom-up with the different stakeholders over an iterative process.

Principle 2: Looking for people centred evidence.

- Engage in improving data collection on active travel ;
- Address the generalisation issue by ensuring that research covers a wide enough geographical and demographic representation;
- Support large-scale, detailed epidemiological studies with measured outcomes that account for person-centred information on the built environment;

- Ensure these studies are of sufficient quality and focus on indicators and metrics which allow to draw conclusions on transport, health and the built environment;
- Support innovation in study design, data sources and analytical approach to address the health problem.

Principle 3: Monitoring and evaluating impacts

- Give prominence to monitoring and evaluating the health impact of transport policies and interventions;
- Design and implement mechanism to integrate evaluation results in policy making process;
- Create the conditions for the monitoring of transport policies and interventions to foster collaborative learning and become part of a participator decision-making process;
- Anticipate the possible health impact of new mobility services in the approach.

Principle 4: Place-Making and Designing cities

- Emphasize the importance of an urban design process which puts people at the core to ensure the planning for successful urban places, inclusive of stakeholders and of all interests.



This Policy Brief is proposed by the Organising Authorities Committee (OAC) and Regional Platforms. It is the result of 2 years discussions, sharing and learning. This is an official Policy Brief of UITP, the International Association of Public Transport. UITP has over 1,500 member companies in 96 countries throughout the world and represents the interests of key players in this sector. Its membership includes transport authorities, operators, both private and public, in all modes of collective passenger transport, and the industry. UITP addresses the economic, technical, organisation and management aspects of passenger transport, as well as the development of policy for mobility and public transport worldwide.

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