International Transport Forum

Pedestrian Safety, Urban Space and Health

Research Report

Summary Document

OECD

INTERNATIONAL TRANSPORT FORUM

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PEDESTRIAN SAFETY, URBAN SPACE AND HEALTH

SUMMARY DOCUMENT

This is a summary of the report *Pedestrian Safety, Urban Space and Health*. The report was developed by a group of international experts representing 19 countries, under the aegis of the Research Centre of the International Transport Forum at the Organisation for Economic Co-operation and Development (OECD).

Recognising its wide benefits, the purpose of this report is to emphasize the importance of walking as an integral part of the transport system and the vital need for policies to promote walking at all levels of planning.

This summary document comprises the conclusions and recommendations, as well as the table of contents of the full report, together with details of the experts who contributed to the work.

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CONCLUSIONS AND RECOMMENDATIONS

Walking has great potential to contribute to high-level government agendas for more sustainable development and should therefore take a central position in urban transport policies. Ensuring that walking is an attractive alternative and complement to motorised transport is a core response to the challenges of climate change, fossil fuel dependence, pollution, maintaining mobility for an ageing population, health, and managing the explosion in motorisation expected in low- and middle-income countries. Because trends established today will determine the future of cities for many decades, action is needed now for the sustainable cities of tomorrow.

1. **Walking is the most fundamental form of mobility. It is inexpensive, emission-free, uses human power rather than fossil fuel, offers important health benefits, is equally accessible for all – except those with substantially impaired mobility – regardless of income, and for many citizens is a source of great pleasure. Yet walking presents challenges to society's least robust individuals.**

Almost everyone is a pedestrian. Walking is the original and most natural mode of transport and the most important for maintaining good health.

Physical inactivity is a leading risk factor for health. Walking daily for as little as 30 minutes contributes to preventing the onset of numerous diseases linked to a lack of physical activity. The World Health Organisation has demonstrated that the overall benefits of walking outweigh any disadvantages associated with crash risk and exposure to pollution.

People with impaired mobility, using wheelchairs or mobility scooters, have at least similar requirements to pedestrians for an environment that facilitates accessibility.

The Charter for pedestrians' rights, adopted by the European Parliament in 1988 -- states that pedestrians have the right to live in a healthy environment and to enjoy freely the amenities offered by public areas, under conditions that adequately safeguard their physical and psychological well-being.

2. **The vitality of a city is closely linked to people being out and about on foot for many purposes. Beyond walking for access to goods and services, these other activities in the urban space are collectively termed "sojourning". Walking and sojourning are at the heart of urban life and contribute to liveable, attractive, prosperous and sustainable cities.**

Cities are places to live, connect and socialise. Urban space is for sojourning as well as moving around. Walking is fundamental to human existence and the quality of life.

Because walking connects people, it has an essential role in the liveability of cities, sociability, learning, and developing one's own personal independence and identity. Pedestrians generally make the most efficient use of scarce space in cities. Pedestrian areas and the intermingling of people bring vitality to cities and economic benefits to retailers.

3. Walking is, however, the neglected transport mode and, despite being at the start and end of all trips, is rarely captured in government statistics on mobility and is often neglected in planning and policy development.

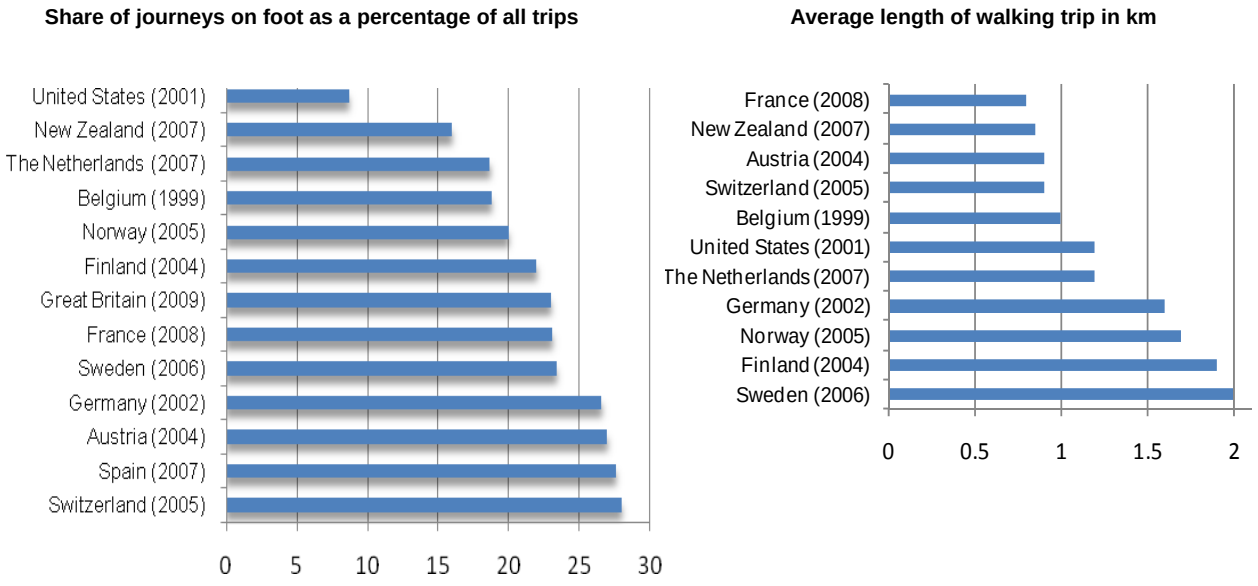
The simplest, most sustainable and cheapest means of locomotion has been largely taken for granted – despite the fact that all trips begin or end on foot. Walking is a necessary complement of public transport. However, motorised traffic has generally received priority, exposing pedestrians to crash risks, pollutant emissions and noise. The entire urban environment, including the road transport system, should be designed with greater priority assigned to the needs of pedestrians.

Traditionally, street and urban design have not focused adequately on the needs of pedestrians. Fortunately, in an acceleration of a trend that had by the 1960s already been set by some pioneering cities and towns, the past practice of overlooking pedestrians' needs in favour of the car is now being reversed in many cities.

Decision-makers rely on mobility statistics, including data on personal travel behaviour, to formulate strategic transport policies and to improve the safety and efficiency of transport systems. However, published data rarely include walking, resulting in its exclusion from analysis and policy discourse.

Despite some well known difficulties in measuring walking, it is an important activity, representing as much as 50% of trips in urban areas. Figure 1 illustrates the share of walking in all trips (urban and non-urban areas) and the average length of a walking trip in various OECD countries. More comprehensive information on pedestrian mobility and safety would help better understand the role of walking in modern life and the causes and consequences of pedestrian injuries, including falls. Comprehensive data collection and analysis on all modes, including walking, are needed to plan and design for optimum mobility. Such analyses should focus on the efficiency, capacity, safety and flexibility of the transport system, to meet the current and future needs of all citizens, including those who are least able.

Figure 1. **Share of walking and average length of a walking trip**



Source: Various national travel surveys.

4. Public institutions representing specifically the interests of pedestrians – including the socially disadvantaged members of society who rely heavily on walking – are rare.

A large proportion of the pedestrian population comprises children and people with age or mobility-related impairments. These groups are not well placed or equipped for making their needs known to decision makers, and often lack support from lobby groups active in the transport sector. As a result, the most vulnerable groups of pedestrians are inadequately represented in urban policy-making. Indeed, no lead agencies for pedestrians at government level could be identified in the survey undertaken for this study.

Walking is not simply a local matter. National governments and transport, land use and health ministers have a responsibility to support and encourage walking through leadership and by providing the necessary legal, administrative and technical frameworks. Responsibilities for accommodating the needs of pedestrians and promoting walking are spread across a wide range of organisations and ministries, resulting in no clear institutional responsibility at either local or national levels for agencies to incorporate walking into their priorities. Central government needs to address the lack of incentives that results from fragmentation.

5. Walking and public transport are interdependent elements of sustainable urban mobility. Walking is facilitated by a well-connected network with pedestrian-friendly infrastructure and well-designed urban space.

Walking is an integral part of travel on public transport; it is more convenient over shorter distances and highly complementary to other transport modes. By strengthening public transport services, including accessibility and security, pedestrians are more motivated to use public transport in preference to private vehicles, thus contributing to a reduction in the number of motorised vehicles in city centres.

Pedestrians should be provided with a well-connected network of footways designed to minimise the effects of geographical, topographical, and physical barriers to pedestrian mobility. This network crucially needs to provide easy access to public transport facilities. By making decisions from the beginning that are favourable to walking, infrastructure costs will be lower and affordability higher than if costly redesign is needed to rectify basic problems as what takes ten years to build can take 100 years to replace.

6. Pedestrians are amongst the road users most vulnerable to traffic injury. It has become highly challenging, especially for older and young people, to cope with the complex, sometimes hostile, traffic conditions that characterise today's cities and towns.

Pedestrians do not pose a significant risk to other road users, yet are exposed to life-threatening risks from them. However, they have been overlooked in the development of current traffic codes which have been focussed on facilitating the flow of motorised traffic.

Insecurity, whether real or perceived, has a major impact on the decision to walk, especially in relation to children and elderly people. Of particular concern is an observed decline in walking among children, in part motivated by their parents' perceptions that walking is a high-risk activity.

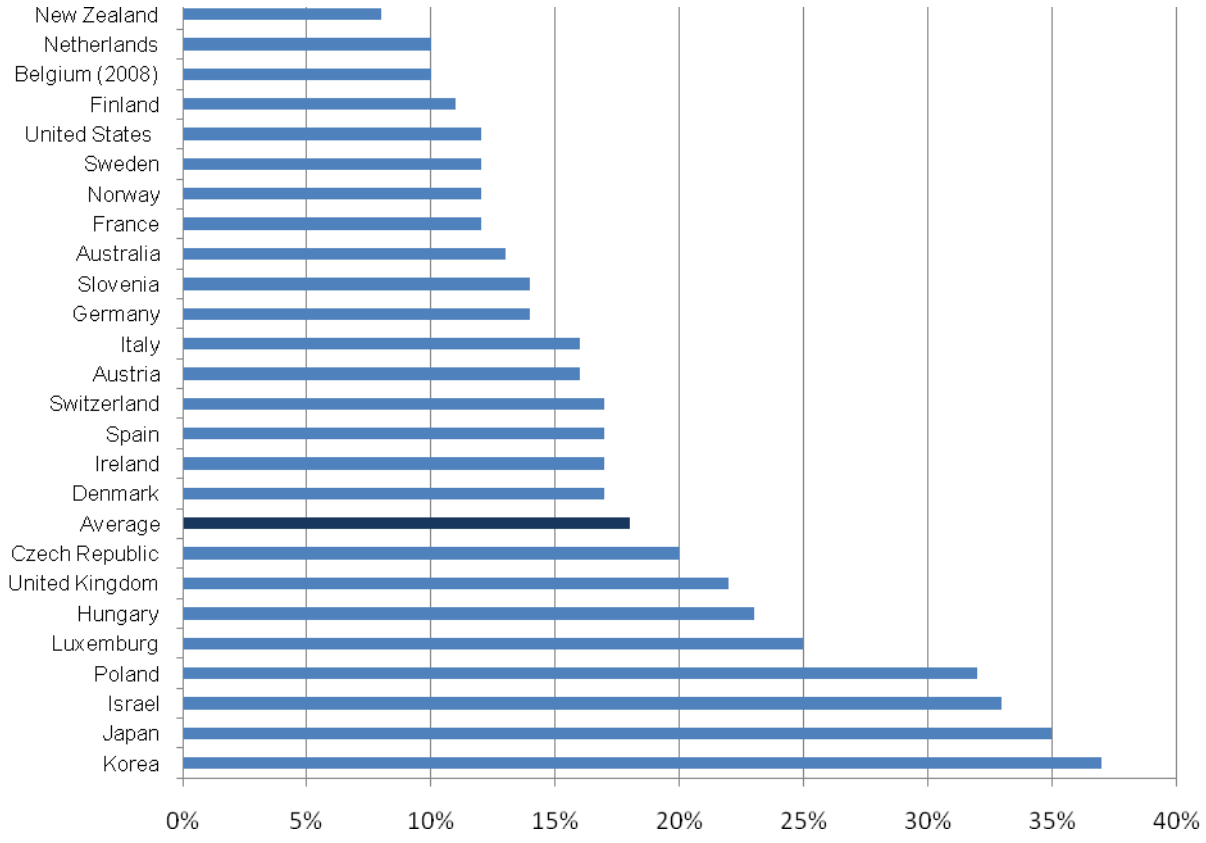
At any given time, around 30% of pedestrians have impaired mobility (because they are overloaded, or have temporary or permanent health impairments). Because of the ageing of the population in many countries around the world, public authorities must prepare for a future where a growing number of highly vulnerable people will be even more dependent on walking.

7. Pedestrians suffer severe trauma from falls in public spaces and in traffic collisions while crossing streets. The magnitude of the consequences of falls is known to be underestimated. Older people have an elevated risk of severe injury and death from both falls and traffic collisions.

It is estimated that more than 20 000 pedestrian fatalities occur annually in OECD member countries, where pedestrian deaths range from 8 to 37% of all road fatalities (Figure 2). Worldwide, the number of pedestrians killed every year on the road exceeds 400 000. In all countries, senior pedestrians (over 65 years of age) are the most at risk. In OECD countries, the 65+ age group represents 13-20% of the population but they comprise more than 50% of pedestrian fatalities.

A large but under-estimated, and sometimes ignored, share of pedestrian injuries involves pedestrians falling in public spaces, accounting for up to 75% of all pedestrian injuries. These injuries are partly due to an inadequate environment or poor maintenance of facilities. This problem will increase with ageing of the population.

Figure 2.Pedestrian fatalities as a percentage of all road fatalities
26 OECD countries, 2009



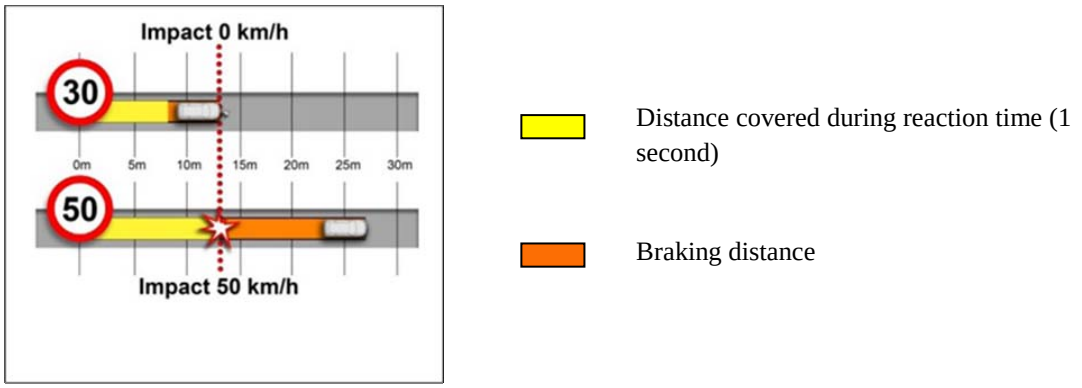
Source: IRTAD

8. Lowering motorised traffic speeds reduces the frequency and severity of crashes, especially those involving pedestrians. Reducing speed also contributes to smoother traffic flow, and enhances in many ways the liveability and sustainability of cities.

Pedestrian safety and the survival rate from collisions with vehicles are directly linked to the speed of motorised traffic. Figure 3 illustrates the total distance required to stop at speeds of 50 km/h and 30 km/h, respectively, taking into account driver reaction time. The risk of death or serious injury to a pedestrian rises rapidly at impact speeds above 30 km/h. Travel speeds of 30 km/h can reduce the risk of fatal injury to a pedestrian by over 80% compared to travel speeds at 50 km/h. Speeds above 30 km/h are too dangerous in mixed traffic zones and cities should not permit speeds of more than 50 km/h on any road designed also to be used by pedestrians.

The large majority of pedestrian injuries or fatalities occur in urban areas and, according to police reports, 70-80% of those in traffic collisions occur while crossing the road, including between 33% and 50% at pedestrian crossings. These findings highlight the importance of very careful planning in the design of pedestrian crossings. Pavements and crossings have to be planned for optimal functionality, providing a homogenous, predictable and forgiving environment, with safe placement of street furniture, signs, lampposts, to allow for a maximum visibility between pedestrians and drivers. ..

Figure 3. Stopping distances at 30 km/h and 50 km/h



Source: CERTU.

9. Motorisation has contributed to urban sprawl, and cities have evolved to accommodate car use, with many negative impacts on life and social cohesion. Changes are required now to manage the preponderant role of motorised traffic in industrialised countries. This is also urgent in low- and middle-income countries, which are now moving rapidly towards much higher levels of motorisation.

Cities are becoming increasingly dependent upon motor-vehicle transport as they expand in ways that contribute to urban sprawl. Planning and design features are required to reduce motor-vehicle use and promote alternative transport modes.

The needs of pedestrians should be considered when planning urban environments so that people can easily walk or travel by public transport to and from their chosen destinations. In addition, city planners should aim to develop pedestrian-friendly environments, including footways that are conducive to walking.

RECOMMENDATIONS

National governments and transport and health ministers can do much to support and encourage walking, even when it is considered to be mainly a local policy issue. A clear vision and political support at national level, backed by a systematic approach to understanding and defining infrastructure quality for pedestrians, is an important complement to and support for initiatives taken by local authorities. To achieve sustainable mobility, governments are invited in particular to consider the following recommendations:

1. Integrate mobility management and urban planning and take better account of the needs of pedestrians from the earliest stages of urban development projects and transport investments, with the object of creating seamless, high-quality networks for pedestrian activity.
2. Establish clear administrative responsibilities among relevant government departments at all levels for co-ordinating walking programmes and initiatives. The purpose of such arrangements is to stimulate and support actions in government and private sector organisations in an integrated way. This might take the form of a national committee or an interministerial co-ordinator supported by a national pedestrian observatory.
3. Improve knowledge about walking to adequately inform government policy development in relation to this fundamental aspect of mobility. This requires a standardized methodology for reporting, measuring and monitoring pedestrian mobility and injuries (from traffic crashes and falls). Standardization would help to make the measurement of growth in walking and sojourning a core indicator of urban sustainability and liveability. Efforts should also be directed at the development of international comparisons of mobility and safety statistics to agreed definitions. At a national level, such information could be collected by a national pedestrian observatory.
4. Incorporate public transport services as an integrated part of the development of new urban areas and the regeneration of existing areas, through planning guidance and financial support for public services. This can support a long-term shift towards higher-density, mixed-use, walking and transit-oriented urban form and a reduction in urban sprawl.
5. Encourage the responsible authorities to give higher priority and more space to non-motorised traffic and public transport in city centres. This includes a number of key actions: providing easy, safe, well-maintained and secure pedestrian access to public transport and to all city centre destinations; development of car-free areas; parking policies to discourage over-use of cars in city centres; and regulations to prevent parking on pavements and crossings, which undermines the quality of walking and, in severe cases, renders it impracticable or dangerous.
6. Develop national pedestrian planning guidance for local administrations. Plans should be required to give consideration to the impact of projects on pedestrians, and cyclists, as part of project appraisals and environmental impact assessments. Plans should also consider the development and setting of targets for future levels of walking, as well as addressing

needs for financial support. Public participation through, for example, pedestrian associations should be solicited in developing urban transport plans. Safety should receive specific attention in national planning guidance, with recommendations for implementation at the local authority level.

7. Encourage employers to implement a broad range of incentives for employees to include active transport in commuting trips. Government agencies should demonstrate leadership in this area.

8. Adopt a safe system approach for the design of the walking environment so that it is organised in such a way that specific risk groups are not exposed to avoidable risks.

9. Implement traffic-calming policies and generalise 30 km/h zones in city centres, residential areas and other high pedestrian activity areas. This should be based on a functional classification of urban spaces, streets and road networks, supported by appropriate infrastructure design criteria to create low-risk and amenable urban environments for non-motorised road users. To be fully effective, best-practice education, communication and enforcement programmes are needed. The development of intelligent speed adaptation systems is also recommended.

10. Encourage the introduction of high-quality education programmes in schools and local community centres, to teach safe road user behaviour and promote the benefits of walking through a range of effective forms of communication. Adult retraining initiatives are also indicated. School mobility plans should be developed aiming to produce a safe and supportive environment in which children can walk to school.

11. Conduct a critical review of current traffic codes to strengthen the legal and financial protection of pedestrians in case of a crash, and give higher priority to more vulnerable road users in order to provide safer, more equitable conditions among the different road users.

12. Develop a research strategy to better understand mobility trends in a changing society. This should include evaluating the effectiveness of measures to reduce dependence on private car travel, achieve higher-density urban forms, protect the environment, improve health and achieve more efficient and sustainable use of energy.

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ACKNOWLEDGEMENTS AND LIST OF PARTICIPANTS

This report is the result of a three-year co-operative effort by an international group of experts representing 19 countries as well as the World Health Organisation.

The Working Group was chaired by Mr. Thanos Vlastos and the work was co-ordinated by the Secretariat of the Research Centre. The report was subject to expert review before publication. The report was formally approved by the Joint Transport Research Committee at its April 2011 session.

The Secretariat is very appreciative of all the time and effort the contributors dedicated to this report.

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International Transport Forum

Pedestrian Safety, Urban Space and Health

Walking is the most natural form of mobility; however cities have not always evolved to accommodate the needs of pedestrians and walking has in many cases been neglected in the development of transport systems. Improving the pedestrian environment can contribute significantly to meeting the challenges of climate change, air pollution and health.

This report aims to present decision-makers with hard evidence on the important place of walking in transport policies and provide guidelines for developing a safe environment conducive to walking. This is an essential contribution to creating liveable cities. Every single trip begins and ends by walking.

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