Importance and Relevance of Focusing and Improving Sidewalk Design

Diyora Muhammadsobir qizi Tajibayeva

Doctoral student, Tashkent Institute of Architecture and Civil Engineering, Tashkent, Uzbekistan

ABSTRACT

The article cites a number of factors that make walking paths and walks an important part of social life and that properly organized walking paths are an important factor in improving the country's ecology, public health and maintaining a balanced lifestyle. It draws on the experience and findings of developed countries, the latest data from the World Health Organization and air quality in Europe. It has been studied that the design of roads in the urban planning of developed countries is oriented towards the interests and convenience of pedestrians, and many results have been achieved in this regard.

Keywords: Pedestrian, population health, air quality, vehicles, walking, sidewalk, landscape, artificial environments, carbon dioxid, urban design

Introduction

Walking is a fundamental and natural right of our ability, regardless of our goals, and will remain an important part of our lives. However, in many countries, people prefer transportation to walking. Walking is even becoming a luxury because we forget how easy, pleasant and rewarding walking is. Despite the production of various types of vehicles, walking remains a topical issue in human life.

Travel is a guarantee of health, happiness and peace. It has the properties of restoring and maintaining muscle, nervous system and mental health, and at the same time strengthens a person's sense of freedom and self-confidence. The longer a person walks, the better he feels, the calmer he is, and the freer his mind becomes. Walking is a must for everyone [1].

Since ancient times, the rider has been able to cover long distances with less effort and has a higher position than the pedestrian. Therefore, the old roads were not suitable for pedestrians by design, but were suitable for horseback riding [2].

This tradition has been preserved from the distant past to the present day - horse-drawn carts have turned into cars.

Modern pedesterians first appeared in Western Europe in the 1950s. Population growth in cities, conflicts over the development of automobile production, the opening of large community centers around the historic districts of the city, which attracted pedestrians and traffic, led to the design of wide, orderly sidewalks.

Leinbaan Avenue in Rotterdam, The Netherlands is the number one pedestrian crossing in the world. The authors of the project are architects J. Bake-ma, I. Vann-Bruk. Leinbaan Road is 600m long and connects the city center with the station area [3].

During the 1960s and 1980s, many sidewalks were widened as part of the construction of new office skyscrapers in downtown (New York). The wide sidewalks were enriched with pub art, musicians and vendors [4].

History has shown that widening and improving roads has helped to improve traffic. Similarly, the attractive design of the sidewalks can encourage and make walking more comfortable.

The Main Findings and Results

Vehicle production has accelerated, and cars are no longer impossible. It is on the list of essential needs of almost every family.

As of January 1, 2021, the total number of cars owned by individuals in the country amounted to 2,767,126, with an average of 80 cars per 1,000 population.

According to the State Statistics Committee's sample survey of households, as of January-August 2021, there were an average of 50 cars per 100 households.

For information: in 2010 - 21, in 2015 - 42, in 2021 - 50 cars [5].

In many cities, we also prefer to travel by car rather than on short distances. There are a number of factors that lead to this choice. In many cases, sidewalks are not considered safe for pedestrians because there are not enough restrictions for the passage of cars and vehicles, and parked cars, billboards, improperly planted trees, defective pavements, and the like obstructions cause inconvenience. The fact that a pedestrian or a cyclist is under constant stress makes the choice of driving in a private car an advantage.

Basically, the main part of the street area is occupied by private vehicles, with 85 m2 for one driver, 14 m2 for cyclists and 1.5 m2 for pedestrians. At the same time, one participant of the traffic takes up 6 times more space than a cyclist and 40 times more than a pedestrian. There is no need for pedestrian parking, and one parked bicycle is 1/13 of the area of a parked car.

In large cities, vehicles are a major contributor to air pollution. In some areas, exhaust gases account for 80% of all pollutants [6].

Air pollution is the greatest threat to the health of the environment, causing cardiovascular and respiratory diseases in the population, and in the most severe cases leading to early death. The European Environment Agency provided information on the state of air pollution concentrations for 2019-2020 at a recent briefing. The figure is in line with standards set by the European Union and the World Health Organization (WHO).

WHO has developed guidelines based on scientific research on air quality and maximum ratios to protect human health from the effects of air pollutants [7].

Accordingly, WHO proposes a multi-layered strategic approach at the population level, which aims to create an environment conducive to increased human physical activity in the anthropogenic environment, thereby reducing air pollution and reducing the risk of chronic diseases in the population (World Health Organization, 2007).

These strategic recommendations are supported by important evidence on the link between favorable conditions for physical activity and increased physical activity.

Pedestrian sidewalks can reduce traffic and reduce carbon dioxide emissions. Investments in the study of pedestrian crossings and transit roads around Seattle show that traffic was reduced by 6-8% and CO 2 emissions by 1.3-2.2% [8].

The study of artificial environments and physical activity typically relied on macro-scale characteristics — construction density, road connections, and land use systems (King & Clarke, 2014). Recently, however, there has been a growing interest in studying the effects of micro-scale factors on physical activity, such as sidewalk quality, pleasing landscapes, and proper artificial lighting (Brownson, Hoehner, Day, Forsyth, & Sallis, 2009).

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Conclusion

To create an environment where you can choose to walk, relax, and stay healthy, you will need:

1. Increase mobility. It is necessary to provide convenient, safe corridors, access to public places, and sufficient areas in many places to meet the needs of everyone.

2. Properly designed and adapted areas and corridors. When planning streets, it is important to recognize that they are public places and focus on pedestrians rather than cars. At the same time, in some places, at the expense of pedestrians, the reduction of the highway or the separation of public areas without them will allow not only children but also adults to play and laugh.

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Ensure that seats and toilets are provided in quantities and locations that meet the needs of all users.

Designing readable streets with clear signs and location information to encourage hiking planning and exploration

Appreciate, develop and maintain high quality and fully accessible urban green spaces and waterways.

3. Improved network integration. Communities are safe, comfortable, attractive and well-maintained, connecting their homes, shops, schools, parks, public transport exchanges, green spaces and other important routes, directly has the right to have a network of straight and easy-to-follow walking routes.

Design public transport stations and exchanges with pedestrian-friendly, safe and convenient access and support information.

4. Improve land use and spatial planning, and ensure that new homes, shops, business parks, and public transportation stations are conveniently located so that people can easily reach them on foot.

5. Reduce vehicle speeds in populated areas, shopping streets, and around schools

Reduce congestion on the roads by setting up safe enough crossings, minimum waiting times, and enough time to cross for the slowest pedestrians.

6. Communities have the right to expect that the urban environment is designed, maintained and protected to reduce crime and the fear of crime.

• Conduct pedestrian audits during the day and after dark to identify personal safety issues and then identify areas for improvement (eg brighter lighting and clearer sight lines).

• Provide training and information to transport professionals to increase pedestrian awareness of their personal safety and the impact of such concerns on their decisions to walk.

7. Communities have the right to expect authorities to provide, support and protect their ability and choice to walk.

Adopt a clear, concise and comprehensive walking action plan to set goals, gain stakeholder support and drive investment, and includes the following actions:

Engage all relevant institutions (especially transport, planning, health, education and police) at all levels to recognize the importance of supporting and encouraging walking and to encourage additional policies and actions.

Consult regularly with local walker organizations and other relevant groups, including youth, seniors and people with disabilities.

Collect quantitative and qualitative data on walking (including motivation and purpose of trips, number of trips, trip stages, time and distance traveled, time spent in public places and levels of satisfaction)

Integrate walking into the training and continuing education of transport and road transport workers, healthcare workers, urban planners and designers.

Providing the necessary current resources to implement the adopted action plan.

Implement pilot projects to promote excellence and support research by offering as a case study and widely promoting local experience.

Measure program success by conducting surveys and comparing data collected before, during, and after implementation.

8. Walking culture Communities have a right to up-to-date, high-quality and accessible information about where they can walk and the quality of the experience. People should be given the opportunity to celebrate and enjoy walking as part of their daily social, cultural and political life.

Actively encourage all members of the community to walk when and where they can as part of their daily routine, regularly developing creative, purposeful information in a way that meets their personal needs and attracts personal support.

Create a positive image of walking by celebrating walking as part of cultural heritage and as a cultural event, such as in architecture, art exhibitions, theatre, literary readings, photography and street animation.

Provide consistent and consistent information and signage systems to support exploration and discovery on foot, including links to public transportation.

Financial rewards for people who walk more through local businesses, jobs and government incentives.

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