

Committee: World Health Organisation(WHO)

Topic: Promoting sustainable urban planning and transportation for public health

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Topic Introduction

As cities develop faster than ever, there is a greater need for environmentally friendly urban planning and transportation. The goal of sustainable urban planning is to design cities that are ecologically friendly and functional. To promote wellbeing and social unity this strategy includes green areas, energy-efficient structures, and efficient resource management.

Transportation is a key component of urban planning that has an important impact on public health. Existing car transportation systems generate greenhouse gas emissions, air pollution, and inactivity, all of which are damaging to a person's health¹. A sustainable transportation system promotes walking, cycling, and public transit also as a way to lower emissions, promote physical activity, and enhance the quality of life.

The advantages of implementing sustainable practices include healthier people, less of a footprint on the environment, and more resilient communities, regardless of the obstacles involved. Obstacles like uncertain worldwide regulations, lack of public awareness and insufficient collaboration are issues that must be tackled in order to achieve progress.

Definition of key concepts

Sustainable Urban Development

“Sustainable urban development is then a city's use of resources and space in a way that meets the needs of its residents in the present without negatively impacting residents' needs in the future.”²

¹ Xie, Yongxin, et al. “Health Status among Greenhouse Workers Exposed to Different Levels of Pesticides: A Genetic Matching Analysis.” Nature News, Nature Publishing Group, 26 May 2020, www.nature.com/articles/s41598-020-65662-1.

²“Geography.” StudySmarter UK, www.studysmarter.co.uk/explanations/geography/sustainable-urban-development/#:~:text=Sustainable%20urban%20development%20is%20then,residents'%20needs%20in%20the%20future. Accessed 1 Sept. 2024.

Sustainable Transportation

“Sustainable transportation refers to low- and zero-emission, energy-efficient, and affordable modes of transport, including electric and alternative-fuel vehicles, as well as domestic fuels.”³

Public Health

“Public health is the science of protecting and improving the health of people and their communities. This work is achieved by promoting healthy lifestyles, researching disease and injury prevention, and detecting, preventing and responding to infectious diseases.”⁴

Urbanization

“The increasing concentration of populations in urban areas, leading to the growth and expansion of cities.”⁵

Integrated Urban Planning

“Sustainable and integrated urban design is a holistic approach that creates synergies by combining various aspects of city design and management, such as place-making, transportation, housing, health and biodiversity.”⁶

Urban Sprawl

“The uncontrolled expansion of urban areas into the surrounding countryside, often leading to increased car dependency and environmental degradation.”⁷

Background Information

Urban development is one of the modern era's defining movements, with cities housing more than half of the world's population. This change has both advantages and disadvantages. On the one hand, cities may be centers for innovation, economic expansion, and cross-cultural exchange..

³Sustainable Transportation and Fuels | Department of Energy, www.energy.gov/eere/sustainable-transportation-and-fuels. Accessed 1 Sept. 2024.

⁴“What Is Public Health?” What Is Public Health? | CDC Foundation, www.cdcfoundation.org/what-public-health#:~:text=Public%20health%20is%20the%20science,and%20responding%20to%20infectious%20diseases. Accessed 1 Sept. 2024.

⁵“Urbanisation.” European Environment Agency, 14 Feb. 2017, www.eea.europa.eu/help/glossary/eea-glossary/urbanisation#:~:text=Urbanisation%20is%20the%20increase%20in,a%20country%20is%20still%20developing.

⁶Environment, UN. “Integrated Urban Planning.” UNEP, www.unep.org/topics/cities/integrated-planning/integrated-urban-planning#:~:text=Integrated%20planning%20is%20a%20powerful,%20%20housing%20and%20health%20and%20biodiversity. Accessed 1 Sept. 2024.

⁷ “Urban Sprawl.” Encyclopædia Britannica, Encyclopædia Britannica, inc., www.britannica.com/topic/urban-sprawl. Accessed 1 Sept. 2024.

However, problems like social inequality, pollution, and traffic congestion are often brought on due to rapid urbanization. In order to address these issues and advance public health and wellbeing, an extensive plan that involves sustainable urban planning and transportation is essential.

The Need for Urban Planning

Over the years, urban planning has seen substantial change. In the past, cities were planned to be both militarily and economically efficient as possible. However, the industrial revolution sped up urbanization, which frequently resulted in overcrowded, unhealthy cities. Due to the growing popularity of automobiles, suburbanization became the primary goal by the middle of the 20th century. A combination of low-density development and a greater reliance on automobiles, led to an urban sprawl, which made environmental and health issues severe.

The idea of urban sustainability has become increasingly popular in recent years.⁸ This strategy focuses on building small, interconnected, green cities. Sustainable urban design aims to achieve a balance between equality, preservation of the environment, and economic prosperity. Its primary goal is to build viable neighborhoods that are equipped with green areas, public transportation, and services.

Sustainable Transportation and Its Impact

Modern cities are strongly impacted by sustainable transportation, which provides a plethora of advantages over mere transportation. It involves transportation options including walking, cycling, and public transit, all of which promote social justice, public health and environmental sustainability.

From an environmental perspective, sustainable transportation lessens greenhouse gas emissions and air pollution. Cities that promote cycling and electric transport decrease their carbon footprint and fight climate change⁹. By controlling the heat island effect, protecting natural ecosystems, improving air quality and lowering respiratory and cardiovascular illnesses.¹⁰

The benefits of sustainable transportation on public health are significant. Walking and cycling are examples of active ways that encourage physical exercise and counter unhealthy lifestyles and

⁸ "Sustainability & Consumer Behaviour 2023." Deloitte United Kingdom, www.deloitte.com/uk/en/Industries/consumer/research/sustainable-consumer.html. Accessed 1 Sept. 2024.

⁹ Author links open overlay panel Christian Brand a b, et al. "The Climate Change Mitigation Effects of Daily Active Travel in Cities." *Transportation Research Part D: Transport and Environment*, Pergamon, 27 Feb. 2021, www.sciencedirect.com/science/article/pii/S1361920921000687.

¹⁰ Piracha, Awais, and Muhammad Tariq Chaudhary. "Urban Air Pollution, Urban Heat Island and Human Health: A Review of the Literature." *MDPI, Multidisciplinary Digital Publishing Institute*, 28 July 2022, www.mdpi.com/2071-1050/14/15/9234.

related health problems including diabetes and obesity. Frequent exercise improves mental health, lowers stress levels, and increases quality of life overall. Public transportation networks that are both efficient and accessible offer affordable transport alternatives, guaranteeing equal access to opportunities and necessities for every community member.

SUSTAINABLE TRANSPORT



Image 1: Methods of achieving Sustainable Transport¹¹

<u>1978</u>	World Health Organization (WHO) Conference on Health and the Environment, where early discussions on urban health and environmental impacts took place.
<u>1992</u>	United Nations Conference on Environment and Development (Earth Summit). Agenda 21 emphasizes sustainable development.
<u>2001</u>	C40 Cities Climate Leadership Group, a network formed to address climate change and urban sustainability.

¹¹ "Sustainable Transportation - Driving Sustainability for Green Supply Chains." Blockchain for Food Safety, Traceability and Supplychain Transparency, 30 Aug. 2024, tracex.tech.com/sustainable-transportation-for-green-supply-chains/.

2020	UN-Habitat's New Urban Agenda Report, which reviews progress and challenges in implementing sustainable urban development strategies.
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The Consequences of inadequate urban planning

Inadequate urban planning and non-sustainable transportation methods have significant consequences. Increased travel times, inefficiencies in the economy, and commuter stress are all caused by traffic congestion. Vehicle emissions produce air pollution, which worsens respiratory conditions and affects public health. Transportation's dependence on fossil fuels escalates climate change, which impacts ecosystems and weather patterns globally.

Socially, unequal access to transportation makes it harder for people to move around and contributes to disparities in socioeconomic status in cities. Inadequate planning can lead to segregated areas where people are cut off from opportunities such as jobs, healthcare, and education due to poor infrastructure and transportation. In addition to limiting job opportunities and hurting unity in the community and general quality of life, this division worsens social inequality. Moreover, excessive urban development, which can lead to environmental degradation, loss of green spaces, increased pollution, and strain on infrastructure and resources, thus threatening food security and biodiversity by destroying agricultural areas and natural ecosystems.

Major countries/ organizations and alliances

Brazil

Brazil promotes sustainable urban planning and transportation through initiatives like the National Urban Mobility Policy and the Minha Casa Minha Vida housing program. Successful projects such as Curitiba's BRT system and São Paulo's metro network exemplify efficient public transportation.

Germany

Germany is a leader in sustainable urban planning and transportation, exemplified by cities like Berlin and Munich with their efficient public transit systems. The country invests in renewable energy and green infrastructure, promoting bike-friendly and transit-oriented urban areas. Germany's approach combines technological innovation, environmental regulations, and community engagement.

Japan

Japan excels in sustainable urban planning and transportation with efficient public transit systems and the Compact City policy, which reduces environmental impact. Innovations in green building and renewable energy integration support urban sustainability. Japan's approach blends advanced technology with traditional practices for resilient urban environments.

Rwanda

Rwanda has made great progress toward achieving carbon neutrality by 2050 via its Green Growth and Climate Resilience Strategy, which focuses on sustainable urban development. The Kigali City Master Plan places a strong emphasis on green infrastructure, effective land use, and sustainable growth. Public transportation changes are made with the goal of lowering pollution and traffic.¹²

Global Environment Facility

The Global Environment Facility (GEF) funds projects aimed at improving environmental sustainability, including sustainable urban planning and transportation. It collaborates with international organizations, governments, and NGOs to support initiatives that reduce greenhouse gas emissions and promote resilient urban development. Through its funding and expertise, the GEF helps developing countries implement sustainable solutions that enhance public health and environmental outcomes.

Previous attempts to solve the issue

Goal 11: Sustainable Cities and Communities

Goal 11 focuses on making cities inclusive, safe, resilient, and sustainable, highlighting the importance of sustainable urban planning and transportation. It aims to enhance urban resilience, provide access to safe housing, and reduce cities' environmental impact.

¹² Kigali Master Plan 2050, www.smec.com/project/kigali-master-plan-2050/#:~:text=The%20new%20master%20plan%20supports,facilities%2C%20open%20spaces%20and%20transportation. Accessed 1 Sept. 2024.

The Paris Agreement

The Paris Agreement commits countries to limit global warming to well below 2°C above pre-industrial levels, aiming for 1.5°C. It emphasizes reducing greenhouse gas emissions and enhancing climate resilience.

Possible solutions

Policy Integration

Incorporating sustainability into urban planning rules and regulations is crucial for long-term success. Policies should prioritize sustainable transportation options, enforce green building standards, and promote mixed-use development. This ensures that all new projects align with environmental goals, reduce emissions, and enhance public health, creating a framework for sustainable urban growth.

Community Involvement

Engaging the community in the planning process ensures that urban development meets local needs and preferences. By involving residents in decision-making, cities can design solutions that are more effective and widely supported. This inclusive approach also helps to prioritize environmental and public health concerns, fostering a sense of ownership and responsibility among citizens.

Energy-Efficient Construction and Green Building Standards

Promoting energy-efficient construction and implementing green building standards minimizes the environmental impact of new developments. These practices include using sustainable materials, optimizing energy use, and incorporating renewable energy sources. Adopting these standards reduces carbon footprints, lowers operational costs, and creates healthier living environments, contributing to overall urban sustainability.

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