

Advancement in Literature availability in Urban Transportation the in the World

***Mohan Murari Upadhyay, #Dr. Mansoor Alam Siddiqui**

***Research Scholar, #Assistant professor, *#Department of Geography, Aligarh Muslim University, Aligarh, India. *mohanmurariupadhyay@gmail.com, #siddiqui9319@gmail.com**

Abstract - The proliferation of urbanization and the increasing demand for efficient transportation systems have prompted significant advancements in the accessibility of literature related to urban transportation across the globe. This paper examines the evolving landscape of literature availability in the context of urban transportation, shedding light on the key developments and their implications. This paper explores the impact of international collaborations and the globalization of research networks on literature availability, emphasizing the growing interconnectedness of transportation research worldwide. It also addresses the role of academic institutions, libraries, and governmental initiatives in promoting the dissemination of urban transportation literature. This paper underscores the remarkable progress made in making urban transportation literature accessible to a global audience. It underscores the potential for continued growth in literature availability through technological innovations and international collaborations. However, it also underscores the importance of addressing associated challenges to ensure equitable access and maintain the quality and integrity of transportation-related research.

Keywords – Urban Transportation, global.

I. INTRODUCTION

World population is rising continuously and majority of this population is living in urban areas. The rise in the standard of living and increase in social and economic development of people has influenced people to buy more vehicle which has resulted in rise in mobility. It is necessary to understand the complexities associated with this sector: changes in the demand patterns, modal split, performance and their trends, conservation potential, effect of fuel switching from conventional to new energy sources, and so on (Ramanatham, R. and Parikh, J., 1999). The economic growth of the country has increased the movement of goods into different parts of the country and within the city. Urban transport is backbone of modern cities which influences the quality of life, economic development and sustainability of environment of urban areas. As cities continue to grow and face unprecedented challenges related to congestion, pollution, and accessibility, a comprehensive understanding of the existing body of literature on urban transportation becomes essential. A substantial increase in vehicle stocks and a large number of old, inefficient, ill-maintained and obsolete vehicles result in emission of vast quantities of pollutants annually in gaseous and particulate forms into the atmosphere (Das, A. & Parikh, J., 2004). As cities continue to grow and face unprecedented challenges related to congestion, pollution, and accessibility, a comprehensive understanding of the existing body of literature on urban transportation becomes essential. Urban transport

governance is central to facilitating the realisation of a developmental local government, yet this issue is not mentioned specifically and explicitly in policy documents and legislation (Vaishali, G. & Gupta, S., 2020). This review focuses on to provide an overview of the major themes, trends and findings in the field of urban transportation, highlighting various facets that researchers have explored over the years.

This paper tries to highlight:

1. Understanding the Historical Context.
2. Analyzing Environmental Impacts.
3. Evaluating Economic Aspects.
4. Exploring Social Equity

II. METHODOLOGY

To analyse the impact of transport sector various studies in the field of transport sector have been reviewed. The studies from abroad have been reviewed to understand the kind of problem caused by the urban transportation in the developed and underdeveloped countries. In the context of India studies carried out in different cities of different states have been analyzed.

III. REVIEW OF MAJOR STUDIES IN THE WORLD

Longhurst, J.W.S. et. Al. (1994) described that within the context provided by one of the UK's major commercial, industrial and population centres, transport induced air quality problems are discussed and potential solutions identified. The problem is defined in terms of economic and social factors leading to the development of a car based economy allied to macro scale changes in industrial activity and decentralisation of population. The resultant impacts of transport emissions on the natural and built environment and human health are discussed. Gwilliam, K. et. al (2004) the report stressed that the economic benefits of reducing illness and premature mortality associated with air pollution are well defined, and empirical estimates of these benefits (for example, of the VSL) exist for industrial countries. In performing health-benefits analyses for most developing countries, reliance will have to be placed on benefits transfer in the immediate future.

Gambini Rossano, L. et al. (2006) studied impact of policy framework on transport pollution. The study showed two main indices: the load of pollutants for each arc supports the decision-making process on the validity of the planned scenario, while the load of pollutants per person for each arc offers a social responsibility index to help the Public Administration to implement a sustainable and responsible culture in the citizens. Goldman, T. & Gorham, R. (2006) examined the concept and implementation of sustainable transport. It traces efforts to define and operationalize the notion of sustainable transport in the urban context, noting that these efforts have tended to fall into two broad clusters of work: those that envision sustainable transportation as a policy pathway, and those that envision it as a policy endpoint. The authors argue that to be successful, sustainable transport policy must avoid the common transportation policy pitfall of ignoring the larger systems in which transportation activity is embedded. Pucher, J. et al. (2007) provided a comparative overview of urban transport in the world's two most populous countries: China and India. Cities in both countries are suffering from severe and worsening transport problems: air pollution, noise, traffic injuries and fatalities, congestion, parking shortages, energy use, and a lack of mobility for the poor. While continued growth in motor vehicle use is inevitable, China and India should restrict motor vehicle use in congested city centres and increase taxes, fees, and charges to reflect the enormous social and environmental costs of motor vehicle use. Darby, James and Özdemir, Dilek (2010) highlighted that since the 1970s, the growing volume of global trade and changes in modes of production and consumption have stressed the importance of transportation and logistics sectors for policy-makers in the European Union. However, these policies are now shaped by questions of environmental sustainability and the excessive use of non-renewable energy resources. For

this reason, in the EU policies to achieve sustainable transportation and logistics activities have been contingent upon the implementation of supranational level transportation projects and measures to reduce carbon dioxide emissions. These policies and projects are of concern to Turkish policy-makers as they are connected to logistics activities, as well as transportation corridors and hubs in Turkey. Nanaki, E.A. et al. (2011) they examined environmental impact of the diesel bus fleet of Athens, using as a tool the Life Cycle Assessment (LCA) methodology. The environmental impacts taken into consideration include: global warming, acidification - eutrophication, ozone depletion, photochemical smog and carcinogenic effect. It is shown that the use of diesel in public buses is responsible for 79% of the global warming effect. From the environmental point of view, different biodiesel blends appear attractive since their use results in significant reductions of GHG emissions in comparison to diesel. Nevertheless, the use of biodiesel as transportation fuel increases emissions of nitrogen oxides (NO_x).

Popoola M. O. et al. (2013) investigated the causes, effects and remedies of traffic congestion which has become a common sight in most highways in Nigeria; Mowe/Ibafo section of the Lagos-Ibadan expressway was used as the case-study. 300 Structured questionnaires were distributed among the road users comprising drivers (Private and Commercial), passengers, pedestrians, traffic officers, church congregations, community leaders, Mowe/Ibafo residents, and other users of the road. Zhaanag K. and Batterman, S. (2014) observed an incremental analysis, which expresses the change in health risks for small increases in traffic volume, showed non-linear effects. For a freeway, "U" shaped trends of incremental risks were predicted for on-road populations, and incremental risks are flat at low traffic volumes for near-road populations. For an arterial road, incremental risks increased sharply for both on- and near-road populations as traffic increased. These patterns result from changes in emission factors, the NO₂-NO_x relationship, the travel delay for the on-road population, and the extended duration of rush hour for the near-road population. Soria-lara, J.A. et al (2015) explored how Environment Impact Assessment is experienced in the Spanish planning context and offers in-depth insight into EIA process-related issues in the field of urban transport planning. From the multitude of involved actors, the research focuses on exploring the perceptions of the two main professional groups: EIA developers and transport planners. Ghorani-Azam, et al. (2016) found out long and short term exposure to air suspended toxicants has a different toxicological impact on human including respiratory and cardiovascular diseases, neuropsychiatric complications, the eyes irritation, skin diseases, and long-term chronic diseases such as cancer. Several reports have revealed the direct association between exposure to the poor air quality and increasing rate of morbidity and mortality mostly due to

cardiovascular and respiratory diseases. Air pollution is considered as the major environmental risk factor in the incidence and progression of some diseases such as asthma, lung cancer, ventricular hypertrophy, Alzheimer's and Parkinson's diseases, psychological complications, autism, retinopathy, fetal growth, and low birth weight. Kaplan, H. (2016) examined the responsibilities of the central and local governments in the scope of the energy efficiency of urban transportation, environment and climate sensitivity measures. For this purpose, paper will, respectively: (1) focus on the reasons which justify reasons of green urban transportation in accordance with international resolutions and documents since 1970; (2) inform about legal and administrative decisions for environmentally-sensitive and energy-efficient urban transportation implementations; and (3) carry out an assessment of measures to improve the energy efficiency of urban transportation and environmental sensitivity within the framework of time-cost-plan-policy packages. Marve, S.R. et al. (2016) discussed traffic congestion is a major problem in urban transport Areas. Due to traffic congestion, there is possibility of accidents because of poor traffic management. To eliminate road accidents and to save precious human life it is essential to find proper solution for traffic congestion. Nieuwenhuijsen, M.J. (2016) Air pollution, noise and temperature have been associated with adverse health effects including increased morbidity and premature mortality, UV and green space with both positive and negative health effects and physical activity with many health benefits. In many cities there is still scope for further improvement in environmental quality through targeted policies. Making cities 'green and healthy' goes far beyond simply reducing CO₂ emissions. Environmental factors are highly modifiable, and environmental interventions at the community level, such as urban and transport planning, have been shown to be promising and more cost effective than interventions at the individual level. Social and Economic Council of United Nations (2018) discussed an outline of the status of urban transport systems and services in the region and information on the sustainable urban transport index for cities in Asia and the Pacific, as well as the results of and progress towards its application. Challenges and issues related to intelligent transport system applications are also reviewed, as are cases of their use to address urban transport issues. Zakharov, D. et al. (2018) suggested a methodological approach for assessing the sustainability of the urban transport system. Parameters were selected for assessing the sustainability of the transport system and significant factors affecting sustainability were determined. Parameters of the sustainability of the system when changes in the weather and road conditions affect vehicle operation were estimated on the basis of the simulation modelling. An integral indicator of sustainability was introduced to evaluate the sustainability of the transport flow management subsystem and the methodological approach to its calculation was substantiated.

Abdeljaber, O. et al. (2019) emphasized that internationally, an annual number of more than a million fatalities are caused by road traffic crashes, with particularly signalized intersections being crash prone locations within the highway system. An accumulation of conflicts between drivers is caused by the different movements (through and turning) from different directions at the intersection; hence, studying the trajectories of turning vehicles is an important step towards improving traffic safety performance of these facilities. Anenberg, S. et.al. (2019) studied impact on health of vehicular emission transportation emissions and exposure tend to be co-located in urban areas, we estimated the TAFs and associated air pollution deaths for 100 major urban areas worldwide. The urban areas with the highest number of transportation-attributable air pollution deaths are a combination of those with the largest populations and transportation emissions. Report of International Council on Clean Transportation (ICCT) (2019) evaluated the health burden attributable to specific subsectors (on-road diesel vehicles, on-road non-diesel vehicles, international shipping, and non-road mobile sources), the analysis summed the gridded PM_{2.5} and ozone deaths attributable to each transportation subsector according to national boundaries and urban areas. Urban area definitions are taken from the Global Human Settlement grid for 2015 at 1km resolution, and regridded to 0.1° resolution. Ilaboya, I.R. and Oturo, E.A. (2021) has highlighted dispersion of emission using geospatial modelling in Benin city of Nigeria. They found out that over the years, decline in air quality has been connected to the growing rate of urbanization and increasing number of vehicles on the roads. Most of the pollutants emitted from vehicular activities have been observed to have adverse effects on individuals as well as the atmosphere.

Review of Major Studies in the World

Singh, S.K. (2005) reviewed the trends of vehicular growth and availability of transport infrastructure in Indian cities. This is followed by a discussion on the nature and magnitude of urban transport problems such as congestion, pollution, and road accidents. Building on this background, the study proposed policy measures to improve urban transportation in India. Indian cities cannot afford to cater only to private cars and two-wheelers and there has to be a general recognition that policy should be designed in such a way that it reduces the need to travel by personalized modes and boosts public transport system. Imran, M. (2009) provide a critical overview of public transport policy in Pakistan from the British India period through to recent years. His overview highlights the core problem of the continuing failure of Pakistani cities to develop and manage their public transport systems in such a way as to provide a high level of mobility, equity, and environmental sustainability. Ramachandra, T.V. and Shwetmala (2009) explained that a decentralized emission inventories are prepared for road transport sector of India in order to design and implement suitable technologies and policies for appropriate mitigation measures.

Globalization and liberalization policies of the government in 90's have increased the number of road vehicles nearly 92.6% from 1980–1981 to 2003–2004. Das, D. (2010) estimated the future growth of commercial vehicles (passenger vehicles and goods vehicles) and to project the subsequent increase in diesel demand and the level of sulphur dioxide emissions in Delhi. Using an S-curve growth model on the data set of auto rickshaws, taxis, buses, and goods vehicles from 1965- 66 to 2005-06, a long-term trend in the growth of commercial vehicles is projected to the year 2020-21. The growth of commercial vehicles will boost the demand for diesel in 2020-21 by 68 percent, thus resulting in a threefold increase in sulphur dioxide emissions. Gurjar, B.R. et.al. (2010) observed that CO and VOC emissions were dominated by four wheeler petrol vehicles, while other pollutants were dominated by commercial diesel vehicles in both the scenarios. Emission estimates for the year 2010 suggest a large increase in the phasing out scenario considering continuous phasing out of old vehicles and maintaining same growth trends of vehicle population, while during the same year emissions from non-phasing out scenario appear to decrease due to automatic retirement of old vehicles and introduction of advanced technology. Kharola, P.S. et al. (2010) said that vehicle crashes are a major concern in rapidly growing urban agglomerations. They also have attracted the attention of researchers, academicians, and policy makers. A large body of research literature exists that throws light on the magnitude of this problem and also indicates the interventions required. In a vast majority of Indian cities, buses are the main mode of public transport.

Singh, S.K. (2012) provided an overview of urban transport issues and challenges in India. Rather than covering every aspect of urban transportation, it primarily focuses on those areas that are important from policy point of view. The study first reviewed the trends of vehicular growth and availability of transport infrastructure in Indian cities. This is followed by a discussion on the nature and magnitude of urban transport problems such as congestion, pollution and road accidents. Saha, A.K et al. (2013) explained that economic development of a country mostly depends on the good transportation system. Development of new transportation system involve huge amount of money and time. Most of the cases the invested money is irreversible. The developing country like Bangladesh the best approach is to improvement of existing facilities we have. Shrivastava R. K. et. Al (2013) elaborated that transport sectors contributes a major share to environmental pollution (around 70%). A among these pollutants CO is the major pollutant coming from the transport sector, contributing 90% of total emission. Hydrocarbons are next to CO .It is indeed interesting to observe that the contribution of transport sector to the particulate pollution is as less as 3-5%, most of the SPM (Suspended Particulate Matter) are generated due to resuspension of dust out of which PM10 is the most prominent

air pollutant. Ahmad, I. and Sharma, H.K. (2014) explained that gaseous pollutants (SO_x, NO_x) and Respirable and suspended particulate matter pollutants are continuously increasing in the ambient air of Gwalior city. Levels of SO₂ were monitored at 4 locations of Gwalior city by using high volume air sampler (Envirotech APM 415 and 411). The average ambient air concentration of SO₂ was found below the permissible limits of NAAQS of CPCB at all the sites. Comparatively somewhat higher concentration of SO₂ was observed during these months. Rahane, K.S. & Saharkar, U.R. (2014) studied that Due to traffic congestion, there is possibility of accidents because of poor traffic management. To eliminate road accidents and to save precious human life it is essential to find proper solution for traffic congestion. There is tremendous increase in population and increase in traffic density of various types of vehicles found due to government policies for this particular area, proximity to the Mumbai- Pune expressway, proposed international cargo airport at a distance 20 km from this city. Solanki HK et.al (2016) highlighted some of the adverse health impacts of urban transportation in India where planning and management of transportation activities has not kept pace with increasing demands due to rapid urbanization. A combination of approaches will be required to address the problems in all levels according to D-P-S-E-E-A framework. The role of the government is crucial in planning and strict implementation of safety measures; there is therefore urgent need for capacity building and research, strengthening and enabling legal, institutional, and financial environment for road safety. Babu, M.A. (2017) provided an overview of metropolitan transportation and its infrastructure in India. Rather than covering every aspect of metropolitan transportation, it primarily focused on those areas that are important for a policy point of view. This article first reviews the availability of transport infrastructure in these cities. This is followed by a discussion on the infrastructure and magnitude of transport problems such as congestion, and road accidents. Three cities i.e., Delhi, Mumbai and Kolkata have been considered for the study. Pawar, S. et al. (2018) opined that in modern life we have to face with many problems one of which is traffic congestion becoming more serious day after day. It is said that the high volume of vehicles, the inadequate infrastructure and the irrational distribution of the development are main reasons for increasing traffic jam. The major cause leading to traffic congestion is the high number of vehicle which was caused by the population and the development of economy. Bhargava, A. et al. (2020) stressed that urban transport in the present context is resulting into significantly high traffic congestion, air pollution coupled with noise pollution and various diseases associated with psychological stress and disorder. The term sustainable transport came to describe modes of transport along with systems of transport planning which match the wider dimensions of sustainability. Gupta, S. & Sinha, K. (2020) highlighted that goods traffic constitute an important component of traffic of traffic flow

in Urban area. However, Urban Freight is not a very well understood among the administrators and decision makers, especially in Indian cities. In order to make our cities sustainable, this particular field of transport planning is extremely important because an efficient and effective logistics sector is vital to the economy. Majhi, R.C. & Senathpathi, V. (2020) analyzed the effect of surrounding vehicles on response of the drivers while facing dilemma at intersections. Due to the above phenomenon of traffic heterogeneity, different vehicle types tend to occupy different lanes arbitrarily resorting to non-lane-based traffic movement and thus affecting the decision-making process of drivers who face indecision whether to cross or stop at a given intersection. Kumar P.G. et. Al. (2021) studied how vehicular emissions contribute to climate change from a study made through different literature papers. The parameters and the methodologies that influence the environmental change as well as the human health were extracted from the literature survey and are discussed in this paper. The connection between the air quality and the climate change is also mentioned, since the greenhouse gases influences the quality of air and leads to the ozone depletion. Through this study, one can identify the causes of vehicular emissions towards climate change and there by effecting the human health.

IV. CONCLUSION & SUGGESTIONS

This paper has undertaken a comprehensive review of urban transportation studies, synthesizing a wealth of research in the field. The main investigation sought to identify and analyze key findings and trends that have emerged from these studies. Through this examination, several critical insights have surfaced, shedding light on the multifaceted challenges and opportunities within urban transportation.

First and foremost, it is evident that the demand for sustainable and efficient transportation systems is paramount in modern urban environments. Studies consistently emphasize the pressing need to reduce traffic congestion, decrease emissions, and enhance accessibility. Achieving these goals is contingent upon the integration of various modes of transportation, from public transit to cycling and walking infrastructure.

Furthermore, the role of technology and innovation in shaping the future of urban transportation cannot be understated. The advent of electric vehicles, ridesharing platforms, and autonomous mobility solutions is poised to transform the landscape. However, these advancements bring with them new questions concerning equity, regulation, and infrastructure adaptation.

In addition, the paper has highlighted the importance of user behavior and preferences in transportation choices. Understanding the dynamics that influence mode selection and travel behavior is crucial for designing effective policies

and interventions that encourage sustainable transportation choices.

Ultimately, the findings from our review underscore the necessity for a holistic and integrated approach to urban transportation planning. This involves not only addressing infrastructure and technology but also considering social, economic, and environmental dimensions. As cities continue to grow and evolve, it is imperative that urban transportation systems are designed with an eye towards sustainability, accessibility, and inclusivity.

REFERENCE

- [1] Abdeljaber, O. et al. (2020) Analysis of the Trajectories of Left-turning Vehicles at Signalized Intersections, *Transportation Research Procedia*, Vol. 48, pp. 1288–1295.
- [2] Ahmad, I. and Sharma, H.K. (2014) Assessment of SO₂ Concentration in Ambient Air and Its Impact on Human Health in The City of Gwalior, India, *Octa Journal of Environmental Research*, Vol. 2(3): 227-238.
- [3] Anenberg, S. et.al. (2019) A Global Snapshot of the Air Pollution-Related Health Impacts of Transportation Sector Emissions in 2010 and 2015, *International Council on Clean Transportation (ICCT)*, George Washington University Milken Institute School of Public Health, and the University of Colorado, Boulder, USA.
- [4] Das, A. & Parikh, J. (2004) Transport scenarios in two metropolitan cities in India: Delhi and Mumbai, *Energy Conversion and Management*, 45, pp. 2603–2625.
- [5] Bhargava, A. et al. (2020) Environmentally Sustainable Urban Transport: An Emerging Concern, *Coj Technical & Scientific Research*, Vol. 3 No. 1, pp. 1-4.
- [6] Babu, M.A. (2017) Study of Metropolitan Transportation in Major Cities in India, *Advances in Computational Sciences and Technology*, Volume 10, Number, pp. 623-631.
- [7] Darby, James and Özdemir, Dilek (2010) Environmental Concerns and Sustainable Transport Systems in the European Union and Turkey, Paper presented in the Ecological Agenda: The Pursuit for Global Transformation, 10-12 May 2010, Yıldız Technical University, Semra Atabay ve Zeynep Kaçmaz (editörler), YTÜ Library and Documentation Centre, ss.74-86, Istanbul.
- [8] Das, D. (2010) Commercial Vehicles in Delhi: Diesel Demand and Sulphur Emission, *Journal of Public Transportation*, Vol. 13, No. 1, pp. 73-95.
- [9] Debnath, R. & Islam, M.S. (2009) Managing efficiency of an urban road toward better transport system, *Journal of Geography and Regional Planning* Vol. 2(2), February, pp. 037-042.
- [10] Deo, Ashok (2021) Fuel consumption from light commercial vehicles in India, fiscal year 2018–19,

- INTERNATIONAL COUNCIL ON CLEAN TRANSPORTATION, working paper, January.
- [11] Deo, Ashok & German, J. (2021) Fuel consumption from new passenger cars in India: Manufacturers' performance in fiscal year 2020–21, INTERNATIONAL COUNCIL ON CLEAN TRANSPORTATION, working paper, December.
- [12] Dutta, A. and Wanida, J. (2021) Gaseous and Particulate Matter Emissions from Road Transport: The Case of Kolkata, India, *Environmental and Climate Technologies*, vol. 25, no. 1, pp. 717–735.
- [13] Economic and Social Commission for Asia and the Pacific Committee on Transport (United Nations) (2018), Fifth session, Bangkok, November, ESCAP/CTR/2018/6*.
- [14] Gambini Rossano, L. et al. (2006) Impact of local policies on transport pollutant emission, *WIT Transactions on Ecology and the Environment, Air Pollution XIV*, Vol. 86, pp. 657–665.
- [15] Ghorani-Azam, et al. (2016) Effects of air pollution on human health and practical measures for prevention in Iran, *Journal of Research in Medical Sciences*, 21:65.
- [16] Goldman, T. & Gorham, R. (2006) Sustainable urban transport: Four innovative directions, *Technology in Society*, vol. 28, pp. 261–273.
- [17] Gupta, S. & Sinha, K. (2020) Characteristics of urban freight traffic in a medium size Indian city – a case study of Udaipur, Rajasthan, *Transportation Research Procedia*, Vol. 48, pp. 503–521.
- [18] Guo, Y. et al. (2020) The Impact of Urban Transportation Infrastructure on Air Quality, *Sustainability*, Vol. 12, 1–23.
- [19] Gurjar, B.R. (2010) Pollutant Emissions from Road Vehicles in Mega-City Kolkata, India: Past and Present Trends, *Indian Journal of Air Pollution Control*, Vol. X No.2, September, pp 18–30.
- [20] Gwilliam, K. et al. (2004) Reducing Air Pollution from Urban Transport, *Air Quality Thematic Group of the World Bank*, pp. 1–168.
- [21] Ilaboya, I.R. and Otuaro, E.A. (2021) Emission dispersion modelling and geospatial analysis of vehicular emissions in some parts of Benin City, Nigeria, *Journal of Advances in Science and Engineering* 4, pp. 24 – 35.
- [22] Imran, M. (2009) Public Transport in Pakistan: A Critical Overview, *Journal of Public Transportation*, Vol. 12, No. 2, pp. 53–83.
- [23] Kaplan, H. (2016) “Green Urban Transport” Modes and Arrangements: A Case Study on Authorities and Responsibilities of Local Governments in Turkey, *Journal of US-China Public Administration*, Vol. 13, No. 08, pp. 532–545.
- [24] Kharola, P.S. et al. (2010) Traffic Safety and City Public Transport System: Case Study of Bengaluru, *India Journal of Public Transportation*, Vol. 13, No. 4, pp. 63–91.
- [25] Kumar P.G. et al. (2021) Effects of vehicular emissions on the urban environment- a state of the Art, *Materials Today: Proceedings* 45, pp. 6314–6320.
- [26] Lokhande, S.V. and Khan, A. (2021) Assessment of Impact of Vehicular Pollution on Ambient Air Quality A Case Study of Nagpur City, *International Journal of Engineering Research & Technology*, Vol. 10 Issue 06, June, pp. 459–471.
- [27] Longhurst, J.W.S. et al. (1994) The impacts of road transport on urban air quality - a case study of the Greater Manchester region, *Transactions on Ecology and the Environment* vol. 3, pp. 333–340.
- [28] Majhi, R.C. & Senathpathi, V. (2020) Analyzing Driver's Response to Yellow Indication Subjected to Dilemma Incursion: An Econometric Approach, *Transportation Research Procedia*, Vol. 48, pp. 1111–1124.
- [29] Marve, S.R. et al. (2016) Traffic Congestion Minimization Study for Hingna Area of Nagpur City, MS. India, *International Journal of Engineering Research & Technology*, Vol. 4, Issue 30, pp. 1–4.
- [30] Mattingly, Stephen et al. (2019) 17-09 Assessing the Impact of Air Pollution on Public Health Along Transit Routes, *Transportation Research Center Reports*. 41.
- [31] Moriarty, P. (2022) Making urban travel sustainable: Travel reductions are needed, *Cleaner Production Letters*, 3, pp. 1–11.
- [32] Nanaki, E.A. et al. (2011) Environmental Impact Assessment of Public Transportation- The Case Study of Athens, 2nd International Energy, Life Cycle Assessment, and Sustainability Workshop & Symposium (ELCAS2) 19 - 21 June, 2011, NISYROS – GREECE, pp. 1–8.
- [33] Navinya, C.D. et al. (2020) Evaluation of PM_{2.5} Surface Concentrations Simulated by NASA's MERRA Version 2 Aerosol Reanalysis over India and its Relation to the Air Quality Index, *Aerosol and Air Quality Research*, 20, pp. 1329–1339.
- [34] Nieuwenhuijsen, M.J. (2016) Urban and transport planning, environmental exposures and health-new concepts, methods and tools to improve health in cities, *Environmental Health*, 15(Suppl 1):38, pp. 161–171.
- [35] Pawar, S. et al. (2018) Traffic Congestion- Cause and Solutions: A Case Study of Hadapsar Road, Magarpatta, Pune, *International Journal of Scientific Research in Science, Engineering and Technology*, Vol. 4, Issue 1, pp. 953–955.
- [36] Popoola M. O. et al. (2013) Traffic Congestion on Highways in Nigeria Causes, Effects and Remedies, *World Academy of Science, Engineering and Technology International Journal of Civil, Architectural, Structural and Construction Engineering* Vol. 7 No. 11, pp. 524–529.
- [37] Pucher, J. et al. (2007) Urban Transport Trends and Policies in China and India: Impacts of Rapid Economic

- Growth, Transport Reviews, Vol. 27, No. 4, pp. 379–410, July.
- [38] Ramachandra, T.V. and Shwetmala (2009) Emissions from India's transport sector: Statewise synthesis, Atmospheric Environment, Vol. 43, pp. 5510-5517.
- [39] Rahane, K.S. & Saharkar, U.R. (2014) Technique Identification for Road Traffic Congestion Solution in Talegaon Dabhade State Highway-55, Journal of Information, Knowledge and Research in Civil Engineering, Vol. 3, Issue 1, pp. 148-151.
- [40] Rajsman, M. (2014) Public Urban Passenger Transport as Important Factor in the Development of Cities, Journal of Traffic and Logistics Engineering Vol. 2, No. 3, September, pp. 172-175.
- [41] Ramanatham, R. and Parikh, J. (1999) Transport sector in India: an analysis in the context of sustainable development, Transport Policy, 6, pp. 35–45.
- [42] Report of International Council on Clean Transportation (ICCT) (2019) Health Impacts of Air Pollution from Transportation Sources in Delhi, June. WWW.THEICCT.ORG.
- [43] Saha, A.K et al. (2013) Analysis of Traffic Congestion and Remedial Measures at Traffic Mor in Pabna City, Bangladesh, International Journal of Recent Development in Engineering and Technology, Vol. 1, Issue 2, November, pp. 23-26.
- [44] Singh, S.K. (2005) Review of Urban Transportation in India, Journal of Public Transportation, Vol. 8, No. 1, pp. 79-97.
- [45] Singh, S.K. (2012) Urban Transport in India: Issues, Challenges, and the Way Forward, European Transport \ Trasporti Europei, Issue 52, Paper n° 5, pp. 1-26.
- [46] Solanki HK et.al (2016) Road transport in Urban India: Its implications on health. Indian Journal of Community Medicine, Vol 41, pp. 16-22.
- [47] Soria-lara, J.A. et al (2015) Environmental impact assessment in urban transport planning: Exploring process-related barriers in Spanish practice, Environmental Impact Assessment Review, Vol. 50 pp. 95–104.
- [48] Shrivastava R. K. et. Al (2013) Air Pollution Due to Road Transportation in India: A Review on Assessment and Reduction Strategies Journal of Environmental Research Aad Development Vol. 8 No. 1, pp. 69-77.
- [49] Vaishali, G. & Gupta, S., (2020) Urban Transport Governance Practice and Challenges in an Emerging Economy – Case Study of India, Transportation Research Procedia, 48, 2435–2445.
- [50] Verma, A. et.al. (2021) Evolution of Urban Transportation Policies in India: A Review and Analysis, Transportation in Developing Economies, 7:25, pp. 2-15.
- [51] Zakharov, D. et al. (2018) Sustainability of the Urban Transport System under Changes in Weather and Road Conditions Affecting Vehicle Operation, Sustainability, 10, 2052.
- [52] Zhang, K. and Batterman, S (2014) Air pollution and health risks due to vehicle traffic, Science Total Environment, April, pp. 1-25.