

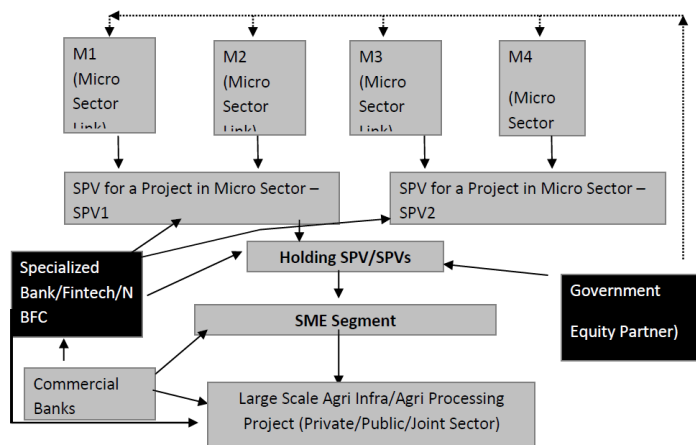
Theme 3-B: Urban Infrastructure and mobility

PUBLIC PRIVATE PARTNERSHIP IN URBAN INFRASTRUCTURE: LEVERAGING FINANCE FOR URBAN ECONOMY USING SOCIAL EQUITY BASED PPP

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Abstract: The financial institutions and infrastructure project development based on PPP have always played an important role in financing Urban Infrastructure in India. In the present context, while continuing the same approach will bring in leveraged finance for large scale urban infrastructure, it is required to compliment this approach by using micro and medium sector project development using social equity based PPP for urban infrastructure projects. This needs to be an integral part of smart city development plans and is critical to enable all e-based transactional projects that support the development of urban infrastructure.



All this requires extending the institutional role of banks and financial institutions and complimenting them with increased role of fintech and fintech companies. Integrated investment in a localised urban landscape using non-credit means of finance like CSR, Grants or equity through a coordinated effort from public and private network can help creation of financial value for all the stakeholders of the local urban economy and activating the concept of smart city based development. Switching to sustainable practices can be implemented by the leading banks, financing institutions and fintech

companies by having financing products in the localized urban infrastructure space covering micro, medium and large scale financing. This paper attempts to bring out the above approach bound together with principle of social equity based PPP.

AN INTEGRATED PUBLIC TRANSPORTATION PLANNING FOR METROPOLITAN REGIONS

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Abstract: Metropolitan Regions are coming up as a result of expanding cities. Mumbai, Pune, Nagpur, Nasik Metropolitan Regions in Maharashtra and Vishakhapatnam, Amravathi, Hyderabad Metropolitan regions have already been formulated and many more Metropolitan Regions are bound to come up under respective Metropolitan Region Authorities. Development Plans for the Metropolitan regions are prepared under the respective Planning legislations of the states; incorporating zoning and reservations for various uses. Transportation planning is done as a part of development plans of the metropolitan regions. However Transportation planning within ambit of development Plan is concentrated on vehicular movement, with a small part dealing with Public Transportation. Proposals regarding new Public Transportation modes such as BRT, LRT, Metro Rail are proposed in an isolated manner. These Public Transportation projects have to be fitted into the existing space. Public transportation facilities remain concentrated in city core and are extended in an isolated manner in Metropolitan regions. New modes often get developed without having thought to existing modes of Public Transportation, thereby adversely competing rather than complementing with each other. There is need for Integrated Public transportation plan (IPTP) for metropolitan region. The paper aims at highlighting the importance of preparing Integrated Public transportation plan for Metropolitan Regions and putting forth a methodology for formulating an IPTP. The case study of Pune Metropolitan Region (PMR); established under the Pune Metropolitan Region Development Authority (PMRDA) has been adopted for the purpose. The present paper lays emphasis on eliminating the drawbacks and shortfalls in the existing PT system and plan for an Integrated Public Transportation System for Pune Metropolitan Region. The outcome of the paper is an 'Integrated Public Transportation Plan' for Pune Metropolitan Region and methodology for its formulation. The concept and methodology can be applied to Metropolitan Regions, with inputs relevant to the regions.



Keywords: *Public Transportation, Integrated Planning, Integrated Public Transportation Plan, Pune Metropolitan Region*

A REVIEW OF URBAN MOBILITY IN INDIA: WITH SPECIAL REFERENCE TO METRO RAIL SYSTEM

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Abstract: The 'Urban Mobility' is considered as the backbone of any Town/City/National development. It serves as the gateway of citizen's life and it plays a key role to access housing, jobs and urban services.



Urban development requires sustainable and efficient mobility options and services that are constantly evolving in line with society. So, the urban governance across the world have concentrate on formulate and implement different plans for providing necessary transport facilities to the citizens. India is the second largest urban system and one of the fastest-growing economies of the world. Rapid urbanization and rising motorization are fueling India's demand for mobility and leading to inevitable mobility challenges such as congestion, air pollution, and increased time of travel. India's mobility landscape faces several challenges, last-mile connectivity being one of them. To solve this issue, Government Authorities are increasingly striving to integrate public transport such as Metrorail with other transit services like PRT, para-transport, feeder buses & electric rickshaws, and non-motorized solutions thereby making public transport more viable.

In India, Kolkata has a first metro rail system. In fact, the Delhi Metro project is considered as the one of the biggest urban intervention in India. Moreover, it is being constructed to world class standards with frontline technologies keeping in view the future requirements for upgradation. The importance metro rail was increased in the recent year. The Government of India has approved New Metro Rail Policy in 2017. It provides direction for undertaking metro rail projects at various urban centres. The policy Lays down various financial models for metro rail development including public private partnership (PPP) and provide a proper ecosystem for its growth in the country. The policy also advised the cities with a population of 20 lakhs or more to look for Mass rapid Transit Systems. As a result, Metro rail has seen substantial growth in India in recent years, and the rate of growth is going to become twice or thrice in the coming years. The cities are facing the need for metro rail to meet daily mobility requirements. The metro rail encourages the walkable developmental pattern, which is also beneficial for society. In this context, the present study analyses the changing nature of Urban Mobility and more confined to Metro Rail Network and it is addressing the role of metro rail to meet daily mobility requirements of citizens in India.

Key Words: *Urban Mobility, Sustainable, Metro project, Rail Policy and Rapid urbanization*

ROAD SAFETY ASSESSMENT ON HILL ROADS- A CASE OF DEHRADUN-MUSSOORIE

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Abstract: According to the MORTH 2020 study, road accidents claimed the lives of 1,31,714 people in India. Road Traffic Injuries (RTIs) are the eighth greatest cause of mortality worldwide for all ages and the top in the 5-29 age group. India ranks first among the 199 nations in terms of road accident fatalities, accounting for over 11% of all accident-related deaths worldwide. Despite India's commitment and efforts, road accidents remain a primary cause of death, disability, and hospitalization in the country. During the calendar year 2019, there were 449,002 accidents in the country, resulting in 1,51,113 deaths and 4,51,361 injuries. Road accidents have significant human cost, social and economic costs. According to a United Nations (UN) research, road accidents cost India's economy 3% of its GDP per year, which amounts to more than \$58 billion in monetary terms. The country has formulated various policies such as National Highway Authority of India Act (1998), The control of national highways (Land and Traffic) act (2000), The carriage by road act (2007), Motor Vehicles Amendment act (2019) and the National road safety policy with various objectives to ensure road safety on highways and urban roads. Extensive study and literature is available on road safety issues on urban roads. However, limited research on road safety on hill roads is available. The study aims to capture various road safety issues in Dehradun and Mussoorie in Uttarakhand, mapping and analysis of accident data, gap assessment and developing an accident prediction model. The study culminates into formulation of recommendations in terms of database creation, integration of Intelligent Transportation System (ITS), etc. The study is an attempt to contribute to the limited literature that exists for road safety assessment for hill roads in India.



Keywords: *Traffic, Motor Vehicles Amendment act, Road Safety, National Highway and Road Accidents*

URBAN TRANSFORMATION, DIGITAL NOMADISM AND KNOWLEDGE CORRIDOR: EVIDENCE FROM DELHI METRO

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Abstract: The rate of urban growth in New Delhi, the capital of India, has been among the fastest in the world. Unprecedented numbers of new residents are being drawn by the transformation of large tracts of crops and grassland into roadways, buildings, and parking places. The industrial settings have also touched the population of Delhi, and their mobility patterns significantly impact how the city's landscape has altered. Moreover, public transportation, especially the mass rapid transit system, provides the city's expanding population with hassle-free and safe travel and protects the environment. In this context, Delhi's metro system is a fitting example that has changed the city's economic topography and accelerated urbanization.



In this framework, the present study tries to evaluate the changes in land use and the level of growth in the area around the stations along the knowledge corridor – the Magenta Line. The study further tries to analyze how accessible students can get around, how far metro stations are from educational facilities, and whether other modes of transportation are available or not. Finally, it also explores the concept of digital nomadism, primarily on using mobile devices while traveling in Metrorail, how travel time is being utilized productively as study time, and what resources students' access from their mobile devices.

Keywords: *Urban Growth, Urban Transformation, City's Landscape, Urbanization and Students Mobility*

DIFFERENTIAL MOBILITY OF MOTORIZED VEHICLES FROM THE CITY-CENTRE TOWARDS VILLAGES IN BOKARO DISTRICT OF JHARKHAND.

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Abstract: With the emergence of urban mobility and transportation facility in towns, particularly in cities, concern was raised in the countryside for the same. The assumption that mobility and better transportation will trickle down to villages with access to innovation and mobility advancement is yet a far-reaching goal in the Bokaro District of Jharkhand. The vehicles crossing the pre-determined checkpoints from Bokaro steel-city towards villages data have been collected during the field survey through



observation and counting methods with the help of enumerators assigned in the months of March to June 2020 in mid-summer. The explanatory variables that define the differential mobility of vehicles from Bokaro Steel city to villages are maximum temperature, minimum temperature, humidity, and precipitation, those have been taken from <https://www.timeanddate.com>. The Stata-16 software environment for statistical computing and graphics is used for analysis. The results show that the regression coefficient for vehicle crossing per day from Bokaro steel city to the nearest town is 8.25090 reduces to 4.10464 for distant villages with a significant p-value less than 0.05. The paper applies a Poisson regression model to test the significance of some factors and used two measures of goodness-of-fit like deviance and AIC. Along with it, the influence of maximum temperature and weather conditions, on the mobility of vehicles are more susceptible in town in comparison to villages. In presenting visions of future rural mobility, this article also identifies key infrastructure as well as institutional and financial changes that are required to facilitate the roll-out of new technologies across rural areas.

Keywords: *Differential mobility, trickle-down, motorized vehicles, Poisson regression, AIC.*

AN ASSESSMENT OF COMMON SERVICE CENTRES IN SELECTED VILLAGES IN BIHAR

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Abstract: E-governance is seen as the base to achieve good governance. It is a tool to bring accountability, efficiency and transparency. In the case of India, it is the largest government set-up which provides public service delivery. ICTs are seen as a tool for empowerment of disadvantaged groups and rural communities. It makes access to services and the participation of the citizens in the governance process more convenient, although it is not a very simple process while implementing the programme. In India national e-governance plan (NeGP) designed a strategic project known as Common Service Centres (CSCs) and introduced on 2006. This is a three tier model and works at three levels which are as follows: (1) State designated agency (SDA); (2) Village level entrepreneur (VLE) and Service center agency (SCA). E-governance aims to build interaction between government and citizens (G2C), inter-agency relationships (G2G) and relations between government and business enterprises (G2B). This study aims to assess the functioning of CSC and to examine the people's perception and knowledge about CSC. CSCs centers are the backbone of E-Government facilities in the rural set-up, it is important to understand the problem of low



footfall at the CSCs. This study is based on primary field work conducted in three villages in Gaya district of Bihar. This is a qualitative study. Semi-structured interviews were conducted with the CSCs operators, officials and villagers. The study found that social class has emerged as a strong element in creating hindrance in access to information. Lack of trust among the people in the CSCs is another factor for people not preferring to visit CSCS. The study found education, caste and gender discrimination as key factors for the failure of CSCs. For the success of e-governance facilities there is a need to overcome the basic problem of literacy and to bring social equity.

Keywords: *E-Governance, CSCS, Good Governance, Village Level Entrepreneur, Bihar*