Analysis of the Factors Creating Problems in Sustainable Transportation in Dibrugarh Town, Assam

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Abstract:

Transportation is a means of communicating people, goods and services from one place to another. It covers all the aspects of human life. Sustainable transportation refers to any mean of transportation that is green and has low impact on the environment. It requires the promotion of linkages between environmental protection, economic efficiency and social progress. Now, in the era of technological and scientific enhancement it is believed that still in different parts of the world transportation growth is unsustainable. The increasing global populations have magnified the pressures placed on existing transportation systems.

This research identifies and analyses the factors creating problems in sustainable transportation in Dibrugarh town, Assam.

Key words: environmental protection, economic efficiency, social progress

Introduction:

Dibrugarh town is second largest urban centre in Assam with a population of as 13.26 lakhs as per 2011 Census. The total geographical area of Dibrugarh District is 3381 sq. Km. The traffic hassles of Dibrugarh Town is increasing day by day. It becomes difficult to maintain sustainability in case of transportation in Town. It traffic overcrowding and jamming by owners and representatives of Auto and three wheelers vehicles create many problems to the greater extent. The district has a better network of transportation with different parts of the country as well as abroad connecting different locations such as the airports and railways.

Methodology:

The assessment of the current situation of analysing the factors creating problems in sustainable transportation in Dibrugarh town is very important in terms of environmental concern. For this descriptive research, secondary data are collected from government departments, interview with officials and staffs of transport department, citizens of town, books and journals etc.

Defining sustainable transportation:

Sustainable Transportation is the capacity to support the mobility needs of a society in a manner that is the least damageable to the environment and does not impair the mobility needs of future generations. Sustainable transportation can be defined under the 'three' '**E**'s of **E**nvironment, **E**quity and **E**conomy where also the comprehensive sustainability can be attain.

Lee Schipper (1996) states that sustainable transportation is that where the beneficiaries pay their full social costs, including those that would be paid by future generations. He further notes that changes in travel associated with a number of potential externalities, including accidents, air pollution, congestions and noise, damaged to the species habitat, increase in CO_2 productions and the importing of oil.

According to Black (1996), "Transport that meets the current transport and mobility needs without compromising the ability of future generations to meet these needs"

Impacts of sustainable transportation in Dibrugarh Town:

Transportation is the single largest source of air pollution and greenhouse gas emissions in the largest part of the world. It can be reduced the harmful effects of unsustainable transportation by choosing sustainable transportation over the use of car. Example of sustainable transportation includes walking, cycling, transit, carpooling, car sharing and green vehicles etc.

The impacts of transportation on sustainability can be briefly listed in the following heads i.e. economic, social and environmental which is shown in the following table-

Table -1: Impacts of Transportation

Economic Impacts	Social Impacts	Environmental Impacts
1. Traffic congestion 2. Mobility barriers 3. Accidental damages 4. Facility costs 5. Consumer costs 6. DNRR	1. Inequality of impacts 2. Mobility disadvantaged 3. Human health impact 4. Community interaction 5. Community liveability 6. Aesthetics	1. Air and water pollution 2. Habitat loss 3. Hydraulic impacts 4. DNRR

DNRR: Depletion of Non-Renewable Resources

Trend of Increasing Motor Vehicles in Dibrugarh District:

If we see the statistical data of total number of motor vehicle registered and total number of motor vehicle on road in Dibrugarh district during the period 2011-17 then we can able to imagine the rate and trend of growth of motor vehicles in the district which also influence in unsustainable transport system of the town also . It is shown in the following tables-

Table-2: Total Number of Motor Vehicle Registered in Dibrugarh District

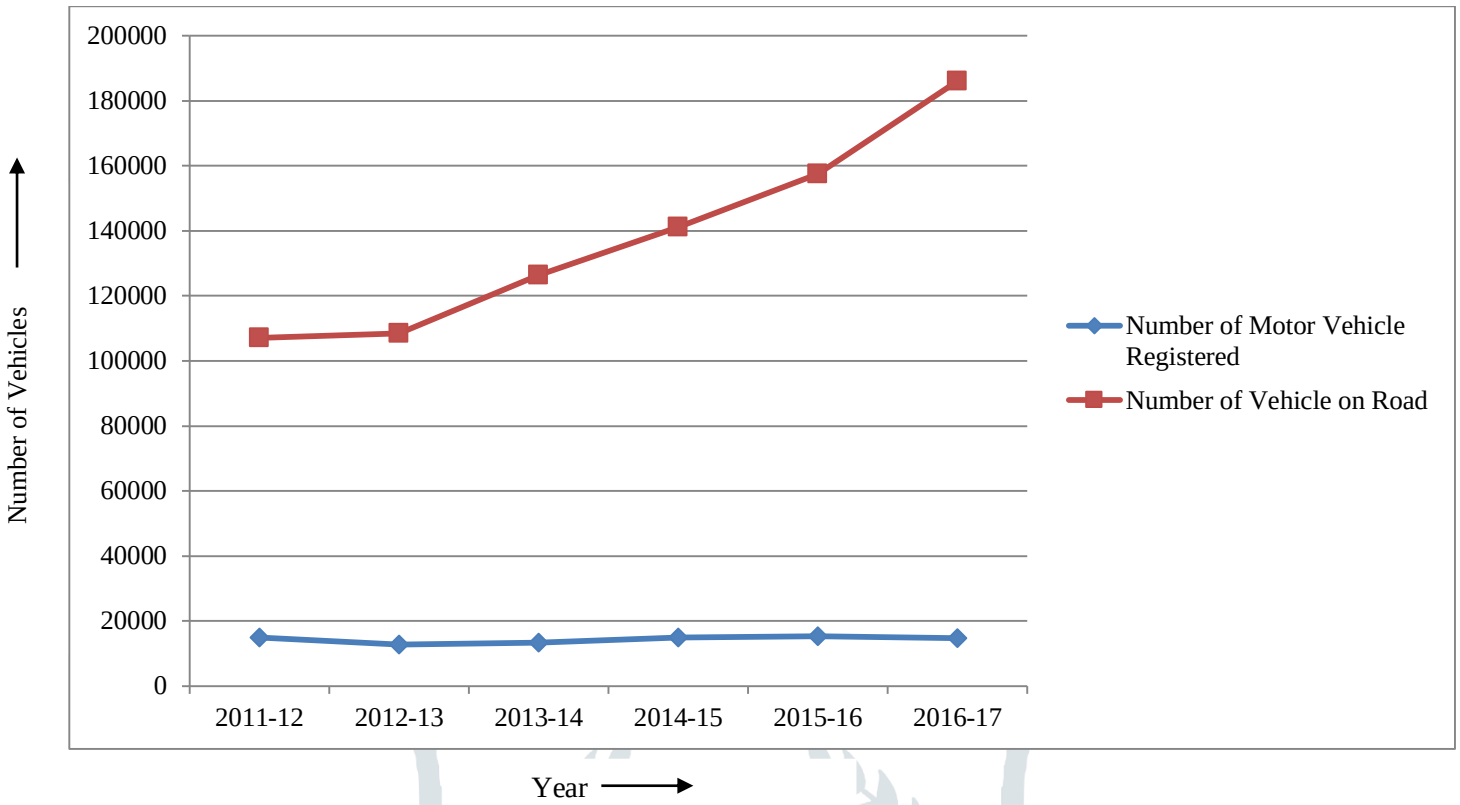
Year	Total Number of Motor Vehicle Registered
2011-12	14886
2012-13	12782
2013-14	13358
2014-15	14978
2015-16	15376
2016-17	14684
Total	**86064**

Table-3: Total Number of Motor Vehicle on Road in Dibrugarh District

Year	Total Number of Vehicle on Road
2011-12	107057
2012-13	108419
2013-14	126458
2014-15	141168
2015-16	157520
2016-17	186126
Total	**826748**

Line Graph showing the Number of Motor Vehicle Registered and Number of Motor Vehicle on Road:

Figure1: Line Graph showing the Number of Motor Vehicle Registered and Number of Motor Vehicle on Road:



From the above tables and line graphs it is seen that during the period 2011 to 2017 the total number of vehicle on road increasing year after year gradually. The number of registered vehicles is comparatively lesser than the number of on road vehicle.

Factors related with unsustainable transportation in Dibrugarh town:

Various factors are directly and indirectly involved with unsustainable transport system in Dibrugarh town. Among them a few are pointed here. They are mainly:

1. **Individual factor:** Now-a-days with the increasing population people are more likely to become dependent on the use of private automobiles according to their living standard. Due to busy schedule of the individuals want to hardly waste time in the public vehicles. Therefore they has given more importance on personal cars which also helps in increasing the number of vehicles day by day which influence in the unsustainable transportation. Moreover physical and psychological factors vary from person to person. So their need of a personal car differs from one another depending on age, fatigue, nature of stimuli etc.
2. **Vehicle as a factor:** The dimensions like width, height, length, ground clearance etc of different types of vehicles affect the road and traffic design of an area. Dibrugarh town is not far behind this factor also. The parking of vehicles in the roadside areas except the parking grounds creates many problems in sustainable transportation.
3. **Institutional factor:** Due to the presence of a highest number of educational, professional and vocational institutions in the town area also influence in the transport system. Thousands of patients are come from different regions to Assam Medical College Hospital in every day creating traffic problem. The Dibrugarh University also plays prominent role in traffic congestion. People come from different places due to their professional and vocational purposes which also contribute to unsustainable transportation by their mood of transportation. The school vans, private buses, travellers, wingers, three wheelers etc creates traffic congestion and heavy vehicle density.
4. **Market factor:** Market also plays a significant role in case of transportation. Covering a large area, the Dibrugarh town market able to attract people due to its high concentration of shopping malls and other shops according to the needs and demand of the people. People come to the market from different localities by personal cars, public auto rickshaws, buses, trains etc. which also creates traffic congestion.
5. **Connectivity factor:** Dibrugarh is well linked by roads, railway (Dibrugarh railway station), airway (Mohanbari Airport) and waterway. In connection to these, there also arises the problem of unsustainable transport system. In the last few months, the newly set up India's longest rail-cum-road bridge, "Bogibeel" over the Brahmaputra River between Dhemaji district and Dibrugarh district is responsible for the high traffic jam in the town. The bridge is located around 17 kilometres away (downstream) of Dibrugarh area. It connects NH-37 at south bank and NH-52 at North Bank of river Brahmaputra. Since people from the North bank of the river Brahmaputra become able to easily accessible to Dibrugarh district for different purposes like better medical facility, educational

facility, market facility in the town etc. only a limited number of people was able to come to Dibrugarh when there was the absence of Bogibeel Bridge through the feri service. But now a day it is an easy task; thousands of people come across the bridge to Dibrugarh from the North Bank per day and vice versa. It also creates many problems in the field of transport system in the town.

Conclusion:

From the above factors it is seen that though various factors are responsible for unsustainable transportation, but we the people are indirectly responsible for that. Yes, we have to survive in this world to the fullest extent. But there are also some ethics of life also. Before doing something we have to think more and more. The environment which provides us the base to live in the world undergoes ecologically imbalanced due to various activities of human life including unsustainable transport system also. Hence people should give importance on green transportation which will beneficial for economic, social and environmental aspects not only for the present generation but also for the future generations too. Government should take some initiatives like transportation planning, appropriate decision making support system for environmental information and resource management, capacity building etc. to control and manage the unsustainable transportation at any area. Replacing conventional vehicle taxis with electric vehicles would be an efficient measure to reduce greenhouse gas emissions. Elements of the transportation system like types of vehicles and their fuels can be altered in a sustainable way. Transportation policy can be adopted in a way that supports sustainable economic development encompassing supply-side and demand-side actions to improve both mobility and environmental sustainability.

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