

SUSTAINABLE CITIES AND COMMUNITIES

TRAFFIC AND TRANSPORTATION

Kumari P

*Assistant Professor, Department of Bachelor of Computer Application
S.E.A College of Science, Commerce and Arts, Kr Puram, Bengaluru*

Inchara R

*BCA 2nd Year, Department of Computer Application
S.E.A College of Science, Commerce and Arts, KR Puram, Bengaluru*

Amoolya K.S

*BCA 2nd Year, Department of Computer Application
S.E.A College of Science, Commerce and Arts, KR Puram, Bengaluru
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Abstract

Sustainable transport means providing affordable and safe transportation without damaging natural resources. Transportation is very important in our daily life because it makes people to get connected with their work. As cities are growing, traffic congestion, accidents, fuel wastage and air pollutions are increasing day by day. Traditional traffic system are not enough to handle this problems so to manage traffic in better and sustainable way modern technology like internet of things and intelligent transportation system so that cities can decrease traffic, save fuel, lower pollution etc. The smart technologies that correct real time data from vehicles and roads using AI devices, sensor and cameras. The machine learning and cloud computing helps in predicting traffic, controlling signals and reducing carbon emission. Artificial intelligence of things is used to improve smart cities. It implements different sensors like ultrasonic sensor, alcoholic sensor and eye blink sensor. This system makes drivers alert automatically and Li-Fi technology is used for the faster communication between the vehicles.

Keywords: *Sustainable Cities, Smart Transport, Traffic, Fuel Saving, Air Pollution, Road Safety, Artificial Intelligence, Internet Of Things, Machine Learning, Cloud Computing, Sensors, Li-Fi Technology etc.*

Introduction

Sustainable transport is a main part of smart cities without good transport a city cannot be smart. Sustainable transport is necessary for smart cities. Population in cities are increasing more vehicles on road, so that roads cannot handle many vehicles. Sustainable transport helps in reducing pollution, saving money, improving health and supporting economic growth. Governments must build safe supportive eco-friendly transport and use more smart technology. Cycling is one of the best sustainable transport because improves health, needs less space and no pollution. The countries like Netherlands and Germany are one of the best example for sustainable transportation.

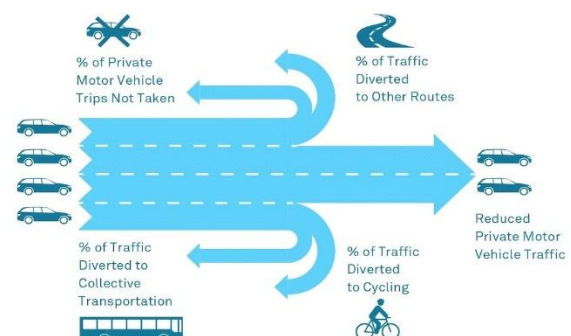
Transit-Oriented Development (TOD)

Transit-oriented Development it helps cities to become more sustainable by developing areas around public transport system. TOD is powerful tool for creating sustainable and smart cities it is not just about transport planning but also about protecting the environment and improving quality of life. TOD includes the planning of homes, offices, shops and public-spaces nearby so that people can easily use public transport instead of cars. TOD can support economic growth and attract investment. It gives environmental benefits like Greenhouse gas emissions.



Reducing Vehicles

The petrol became cheaper after the Second World War and which encouraged more people to purchase private cars. As residential areas moved farther from workplaces, the distance between daily activities grew, making the use of cars essential. People started depending more on private vehicles to avoid this we must connect with public transport. Government must invest in high equality public transport and encourage cycling and walking this will motivate people to live near cities, even a rich cities can reduce private vehicles by giving more comfort public transport. People must start using more metro than their private vehicles to avoid traffic congestion. The government must make the roads more broader so that vehicles goes freely.



Enhancing Accessibility for Vulnerable Groups

This is the core component for modern traffic and transportation. Public transport is very important for the people in any city especially for vulnerable group like children, elders, women and person with disabilities etc. The problems faced are lack of ramps, overcrowding and limited public transport in rural areas. The plan must be multi-model, well planned and reliable. The benefit are promoting equality which reduces dependency on private vehicle. Government must implement more low floor buses, double decker buses, reverse sitting and also provide real time information with helps using with mobility. It will be more good if they provide separate transport for them so that they access it safely. The training staff must assist passengers by conducting more public awareness



Conclusion

Sustainable transportation is not just an option but a necessity for the present and future generations. It represents a long-term

commitment, where the integration of smart technologies and robust public transport systems can reduce reliance on private vehicles, leading to cleaner air and a higher quality of life in cities. Although the installation and maintenance costs may be high, the overall benefits far outweigh the disadvantages.

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