

Transit Elevated Bus

**Mr. Nadeem B. Shaikh¹, Mr.Chakor Vishal Arjun², Mr.Saurabh Hiranman Sonawane³,
Mr.Zade Roshan Dinkar⁴, Mr.Jadhav Aniket Rohidas⁵**

Assistant Professor in Electrical Engineering, Sir Visvesvaraya Institute of Technology, Maharashtra, India¹

BE. Electrical Engineering Students, Sir Visvesvaraya Institute of Technology, Nashik, Maharashtra, India²⁻⁵

Abstract: The Transit Elevated Bus (TEB) (simplified Chinese: traditional Chinese: pinyin: a proposed new bus concept where a guided bus straddles above road traffic, giving it the alternative names such as straddling bus, straddle bus, land airbus, or tunnel bus by international media. A trial was scheduled to begin in Beijing's Mentougou District by late 2010. However, the project was not given authorization by the district authorities because the technology was considered to be too immature, and further trials were subject to the development of a concept to prove the system actually works. The city of Manaus, Brazil, has also evaluated the option of installing a straddle bus in its city streets. At the time of the 2016 unveiling of the scale model, it was reported that a prototype would be deployed by mid-2016 in Qinhuangdao. Four other Chinese cities, Nan yang, Shenyang, Tianjin, and Zhoukou, had also signed contracts for pilot projects involving the construction of test tracks beginning in 2016. However, a claimed test of a prototype design was heavily criticized in August 2016, and appears to be abandoned as of December 2016.

Keywords: Transit Elevated Bus (TEB), fossil fuels, straddling bus, straddle bus, land airbus, or tunnel bus by international media.

I. INTRODUCTION

Energy is one of the most vital needs for human survival on earth. We are dependent on one form of energy or the other for fulfilling our needs. One such form of energy is the energy from fossil fuels. We use energy from these sources for generating electricity, running automobiles etc. But the main disadvantages of these fossil fuels are that they are not environmentally friendly and they are exhaustible. To deal with these problems of fossil fuels, we need to look at the Non-Conventional Sources of energy. With regard to this idea we have designed a train that runs on solar energy. Many specifications must to know about solar train from solar array, motor, battery and so on each specification has theory and calculation to make it function correctly & able to move perfectly. This project a lot depends on solar panel because it using influence if the solar train can drive or not. Using brain storming techniques to generate ideas, several initial design may be consider a common place to start is with the shape of the train since it will dictate the design of many other system initial designing concept are also developed for chassis design mechanical system design, electric system design, driving train design & solar array design that show promise are investigated further so that design can be compare through trade of studies the concept must be eliminated until a final design can be agreed upon there are many factors to consider to each design, for example: Weight, Efficiency, Speed

Knowledge about solar array also important because the array is made up of any photovoltaic solar cell that convert sun energy into electricity. The cell types & the dimensions of the array depend on the vehicle size and class. More over knowledge about drive train in solar powered vehicle is very different from that a conventional car. Through this project the drive trains consist of electric motor & the means by which the motor power is transmitted to the vehicle to move.

II. OBJECTIVE

- a) To design use photovoltaic source of power.
- b) To fabricate & assemble a working proto type model.

III. BLOCK DIAGRAM

Block Diagram Description:

Here we are going to use line following concept for straddling bus.

Path sensor will drive the bus in proper manner. Initially the bus moves on its white track path. Below the bus, IR transmitter present continuously sends IR signals which is reflected through IR receivers which is placed next to the transmitter because of reflections from any non black path.

It continues run on white path, the whole bus is powered by solar energy. Ultrasonic sensor Module is used for detecting the either vehicle is passed or not below bus. Either vehicle height is more than straddling bus space, it detects by IR sensor Module and controller makes OSN horn. It avoids accident case.

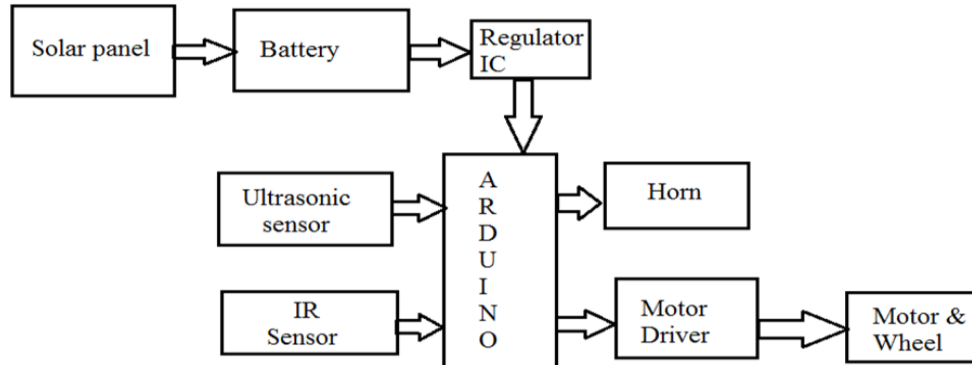


Fig.1 Block Diagram

IV. ADVANTAGES

- Fuel source for Solar Panel is direct and endless so no external fuels required.
- Unlimited life of Solar Modules, fast response and high reliability.
- Solar energy is renewable and freely available.
- Can operate under high temperature and in open.
- Inherently short circuit protected and safe under any load condition.
- Pollution free.
- Minimum Maintenance
- Independent working
- Noise-free as there are no moving parts.
- No AC to DC conversion losses as DC is produced directly.
- No transmission losses as installed in the vicinity of the load.
- Suitable for remote, isolated and hilly places.
- Since it is in modular form, provision of future expansion of capacity is available.
- It can generate powers from milli-watts to several mega watts.
- It can be installed and mounted easily with minimum cost.
- Solar energy does not cause pollution. However, solar collectors and other associated equipment / machines are manufactured in factories that in turn cause some pollution.
- It provides zero% carbon emission.
- It is estimated that the world's oil reserves will last for 30 to 40 years. On the other hand, solar energy is infinite (forever).

V. CONCLUSION

The solar straddling bus are used at very low scale, at present. Though they have been around for about few years only, the technology is still in the developmental stages. Hence, they cannot be used as a practical means of traction. So here is the conclusion that the challenge lies in making it a viable means of transport. Further research is needed in this regard to improve solar panels, increase efficiency, and reduce weight, to improve reliability and to reduce the cost. Research is being carried out on many semi-conductor s and their alloys to develop more efficient solar cells. Thus, this technology will definitely live up to its potential sometime in the future.

REFERENCES

- [1] Guruprasad Patil¹, Dr. C. R Rajashekhar² - "RFID Based Metro Train System", International Journal of Advancements in Research & Technology, Volume 3, Issue 5, May-2014 ISSN 2278-7763
- [2] Akshatha.R, Dr. J Meena kumari –"Enhanced &Integrated E Ticketing - An One Stop Solution", International Journal of Advance Research in Computer Science and Management Studies, Volume 3, Issue 6, June 2015