

# EcoMaglev

It will be an Internet platform, under the domain [www.ecomaglev.com.br](http://www.ecomaglev.com.br) which aims to stimulate the infrastructure sector in urban mobility, initially taking advantage of existing or planning BRT (Bus Rapid Transit) corridors, generating increased capacity, regularity and comfort for users.

By the implementation of a high road on the bus corridor, covered with solar panels, it will be possible to reduce by 75% the average journey time, replace the fleet of diesel buses with electric vehicles and deploy stations shopping malls, constituting an integrated system with the following revenue distribution: 40% urban transport; 40% rental of commercial space and parking in stations and 20% commercialization of electricity. The average kilometric cost of implementing EcoMaglev on a BRT track is estimated between US\$ 10 and 15 million, equivalent to 10% of a subway system of the same capacity (45 thousand passengers / hour / direction).

The web platform will offer a wide database and simulators with use of Artificial Intelligence (multiagent system) allowing hundreds of urban planners, graduate students and all interested community to propose solutions for urban mobility, social and environmentally correct solutions. It constitutes an open and cooperative system for information transmission and knowledge creation at international level, capable of attracting private investments in the BOT (Building Operation Transfer) regime. The initial market is cities in 40 countries, which operate BRT, daily moving approximately 34 million passengers on more than 5,000 kilometres of track.

The platform connects the technical and academic community with investors, implementing practical and viable solutions, dispensing the need for public financial resources for investments. The government that manages the BRT corridor, to be used by EcoMaglev, will only be responsible for stimulating private investment, bidding concessions, overseeing the works and operation and, when the concession term expires, receive the entire system in operation free of charge.

## **The Problem**

The BRT system shows signs of exhaustion when demand is high. Being a surface transport, subject to the uncertainties of traffic, there is no way to guarantee a consistent interval between regular buses.

The finding is serious because so many Latin American and Asian cities have bet on this faster and cheaper solution than mass transport on rails. However, at a cost of US\$ 150 million/kilometer, as in the recent bid won by a Chinese consortium in December 2019, for the construction of 24 km of high road in Bogota, Colombia, few developing economy countries are able to afford investment in subway transport.

## **The Solution**

It is not always where the problems are located exactly where the solutions are generated;

the opposite usually happens. In these places, people are suffering in such a way from problems that they do not have time and conditions to propose solutions. On the other hand, where there is an excellent educational level, efficient transportation systems and articulation capacity, ideas can arise to help, as people have not suffered from the problems of public transport capacity and irregularities in meeting schedules. With the current ease of communications and knowledge dissemination through the Internet, innovative solutions can emerge from anywhere in the world to help BRT users, as long as people, even at a distance, are motivated.

## **Planning**

In the case of technological innovation, it is challenging to establish rigid planning. As with true innovations, possibly future business leaders don't even know that it can exist today. So the first goal of planning is to establish a good, broad and unrestricted disclosure plan.

Probably the first target for the dissemination of technological advantages is NGOs supported, openly or not, by those interested in transport.

The second key step in planning will be to create a quality database on the technology.

The third planning step will be to conduct an expeditious and remote analysis of the application of the EcoMaglev alternative on BRT corridors with high passenger density per kilometer. Initially, up to 7,000 passengers / km, existing in 42 cities.

This participatory methodology is always successful, when local technical support is obtained, from people who know the problem well and are able to propose solutions.

## **Financing**

There are things that money doesn't buy. For example, the attention of a political or business leader, an internationally recognized NGO and even large and innovative companies. Gaining those few minutes of attention is invaluable.

Without a doubt, money is important. However, it is a necessary but not sufficient condition. Very important will be voluntary adherence and the participation of people who are truly committed to the purposes of the UN Agenda 2030 and concerned with the environment, sustainability and climate change. Each of them contributing according to their individual abilities and skills.

## **Construction**

Starting the creation of the Internet platform, provided that it has a minimum cooperative effort from some people, is not the most difficult task and absorbs few resources.

It is feasible to create a collaborators network spread around the world and share links on several other sites of equal interest.

## **Operation**

Once a good disclosure has been made and the necessary political and financial support has been obtained, maintaining the platform in operation becomes a routine job, facilitating the expansion of the system. It will, of course, be necessary to create a self-sustaining process, through the charging of a “success fee” fee, voluntary contribution from interested companies participating in the database of recommendations or even technical consultancy services and approval of new vehicles.

There are still no technical standards for magnetic levitation. It does not make sense to adopt railway requirements in this technology, which has its own safety requirements, some less rigid than railway, others even more rigid. There is a great deal of standardization work to be done, an important mission for technicians associated with the [www.ecomaglev.com.br](http://www.ecomaglev.com.br) platform.

Global, participatory and with Artificial Intelligence resources, Industry 4.0 concepts and Internet Things, the EcoMaglev project is effectively a modern and innovative virtual solution, capable of accelerating the infrastructure sector, with great environmental, social and economic benefits .