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Prokopovich D., Matusevich O.
Incredible Way of Future Transportation

Belarusian National Technical University
Minsk, Belarus

A big concern on top of urban transportation planner's mind is how to speed up the traffic: putting more buses on the road will jam the roads even worse and deteriorate the air; building more subway is costly and time consuming. The Chinese company Transit Explore Bus, located in Beijing, is currently building the first full-scale prototype of the Straddle bus, which has a very unconventional bus design.

The model looks like a subway or light-rail train bestriding the road. It is 4-4.5 m high with two levels: passengers board on the upper level while other vehicles lower than 2 m can go through under. Powered by electricity and solar energy, the bus can speed up to 60 km/h carrying 1,200-1,400 passengers at a time without blocking other vehicles' way.



The bus that will drive over cars

The highlight innovation of the Straddle bus is that it runs above car and under overpass. Its biggest strength is saving road spaces, efficient and high in capacity. It can reduce up to 25-30% traffic jams on main routes [1]. Running at an average 40 km/h, it can take 1,200 people at a time, which means 300 passengers per cart. This is what the interior looks like: it has huge skylight that will eliminate passengers' sense of depression when enter. Passengers travelling on the Straddle bus will experience a feeling similar to the feeling of a trip on a traditional English double-decker bus.



Each bus can fit up to 300 passengers

Another strength of the Straddle bus is its short construction life cycle: only 1 year to build 40 km. Whereas building 40-km subway will take 3 years at best. Moreover, the Straddle bus will not need the large parking lot that normal buses demand. It can park at its own stop without affecting the passage of cars.

There are two parts in building the Straddle bus. One is remodeling the road, the other is building station platforms. There are also two ways to remodel the road. The former is to

go with laying rails on both sides of car lane, which save 30% energy, the latter is to paint two white lines on both sides and use auto-pilot technology in the bus, which will follow the lines and run stable. There are also two ways in dealing with station platform. One is to load/unload through the sides; the other is using the built-in ladder so that passengers can go up and to the overpass through the ceiling door.

The Straddle bus is completely powered by municipal electricity and solar energy system. In terms of electricity, the setting is called relay direct current electrification. The bus itself is an electrical conductor, two rails built on top to allow the charging post to run along with the bus, the next charging post will be on the rails before the earlier one leaves. The set here is super capacitor, a device that can charge, discharge and store electricity quickly. The power it stores during the stop can support the bus till the next stop where another round of charging takes place, achieving zero toxic gas throughout the process.



The bus is designed to hover above traffic

The Straddle bus will be equipped with a mass of various sensors that will give warning signals to cars in case of dangerous approach. And in the event of an emergency, bus

passengers can be evacuated by inflatable hills, similar to those used for emergency evacuation of passengers from aircraft.

The maximum speed that the Straddle bus can develop will be 60 kilometers per hour. And, according to preliminary calculations, one Straddle bus can provide passenger transportation in a volume comparable to the traffic volume of 40 ordinary city buses. The use of electric energy will save up to 860 tons of fuel per year from just one such bus and save the environment from carbon dioxide emissions of 2,640 tons, which is of great importance for normalizing the ecological situation in big cities [1].



The Straddle bus station platform

In summary, we can draw a conclusion. Truly, and most importantly, the Straddle bus is not a bus because it runs on a track. So, it is a train.

References:

1. Everything That Makes China's New Traffic-Straddling Bus So Fascinating [Electronic resource]. – Mode of access: <http://www.jalopnik.com>. – Date of access: 18.02.2017.