

## THE FUTURE OF TRANSPORT

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The most possible ways of developing future transportation systems are outlined. Their main conveniences are remarked.

Since early times, humans have racked their brains on how to make traveling faster and more convenient. First, we invented the wheel, then carts and wagons, steam power, and the internal combustion engine. The innovation continued with electric cars, bikes and autonomous vehicles. Ideas that seemed to belong only to the realm of science fiction are being made a reality.

And nowadays a lot of scientists have a great number of shots in the dark about the most possible ways of developing current transportation. We are moving into new, smarter sources of energy, modes of transport and physical and technological infrastructure to support these innovations. Three common themes in transportation improvement are: smart technology, electrification, autonomy.

### **1) Autonomous aerial vehicles (AAVs)**

Will public transportation take to the skies? This could soon be a reality. Successful demonstration flights of Autonomous aerial vehicles (AAVs) have been carried out already. Although similar to drones, which are generally unmanned, AAVs are different. AAVs are essentially autonomous human-carrying drones, designed for transporting passengers. Most configurations of these flying vehicles use Vertical Take Off and Landing (VTOL) through horizontal rotors, which require no runway. The idea is to put commuters into AAVs, taking them off congested roadways and to their destinations on direct routes, greatly cutting travel times.

### **2) The Hyperloop**

The idea of the Hyperloop was first envisioned by Elon Musk in 2012. This future mode of transportation is designed for longer haul transportation between cities, countries or even continents.

The principle of the Hyperloop is based on the movement of people in capsules or pods that travel at high speeds through tubes over long distances. Inside the tubes is a low pressure environment void of air, while the pods use magnetic levitation (MagLev) technology for propulsion. The low pressure and MagLev, create a very low friction environment allowing the pods to travel upwards of 700 MPH.

Other examples include differing versions of autonomous MagLev trains suspended above city streets; cable cars far above urban skylines; hybrid cars with wings; electric bikes, skateboards and other personal mobility devices; autonomous busses; even Falcon 9 Rockets to leverage the speed of space flight to get people around the globe quickly. Many of these are far into development and even wider implementation.

### **3) Vehicle-To-Vehicle / Vehicle-To-Infrastructure communication**

Simply networking cars together wirelessly is likely to have a far bigger and more immediate effect on road safety.

### **4) Mass space exploration**

Robotic missions to space will become possible for the fraction of the cost – space missions will spread to non-governmental organisations such as universities and individual companies. While human space missions will require certain technological breakthroughs, the emergence of self-propelled satellites in the future will bring remote space exploration much closer to individuals.

### **5) Customised transport**

There are also expectations that future cars will be increasingly customised. A person in almost any major city, for example, could by 2040 be able to step out their front door to find waiting the autonomous pod they ordered from a nearby multi-storey charging station only minutes earlier.

The pod, just one among the suite of options offered by her or his personal mobility provider of choice, will embark once the passenger has taken their seat and presented authentication, either through a wearable device or some form of biometric ID. The destination that day could be quotidian, the office or a restaurant to meet friends for dinner. Or it could be grander, the start of journey tailored to the precise needs and interests of the traveller, with the reservations and tickets and experiences all selected by the provider's proprietary algorithm, which draws on each subscribers' travel history, social media posts, search history, and other sources to take them to where they want to go.

#### **References:**

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