Fast population growth caused many problems for cities such as decrease of resources, crowded streets, lack of parking lands, etc. Every city wants to solve these problems. The best way to do it is to use advanced technologies. One of the most imporant technology for cities is a sensor. This amazing device can increase citizens‘ quality of life, make city more environmentally friendly and do many other upgrades.

**What is a sensor?**

Sensor is a small electronic device which gets physical information from some process in the environment and converts it to an electrical signal. By the way, sensor can monitor and track everything from traffic flow to water pollution in real time.

**How it is made?**

There are many various sensors. Therefore, they are made of different materials and are used to track something particular but the principle of producing every sensor is pretty similar. At first, the scientist decides which problem he wants to solve and perfectly analyzes it. Then, he selects some kind of energy causing his problem. Finally, a scientist finds some sort of material that is responsive to that type of energy.

**Ways to use sensors.**

Usage of sensors is a fantastic idea to reduce traffic jams. Lets say a big city has tons of traffic. There is a big percentage of people in the cars who are looking for parking spaces. They are driving around circles and creating big jam. To solve this, we can use sensors by putting it in parking spaces and then collecting data where the parking space is empty or where is occupied. Furthermore, we can send this information to the cloud for applications consuming.

Moreover, it helps to save energy. Some cities have impracticle streetlighting system. Lights remain on even there is no activity in the area. With sensors, we can use the function which responds to the action in the area and turns on lights. Also, the authorities can instantly get a message if a malfunction occurs and within a short time go to fix it.

There are so many examples which I did not mention, for instance, better wastewater management, smart agriculture, real-time pollution managemet.