APPLICATIONS OF IOT

**1. Traffic Management**

For example, the traffic lights should automatically adjust according to the volume of the traffic so that green lights should have a longer duration where there more traffic and shorter duration when the streets are empty. Sensors can also be embedded in roads and bridges to monitor their conditions so that they can be repaired when there is much wear and tear. After all, roads with potholes are also a major cause of traffic pollution!

**2. Air Pollution**

IoT along with machine learning can be used to reduce air pollution. This is possible by collecting data related to city pollution like emissions from vehicles, pollen levels, airflow direction, weather, traffic levels, etc using IoT from various sources and then calculating pollution forecasts to see the trends in pollution so they can be controlled.

**3. Healthcare**

Healthcare is an extremely important aspect of life, especially in current times when non-communicable diseases like heart problems and cancer are increasing in big cities while there are still a lot of deaths from infectious diseases in poorer places. In such a situation, IoT technology can surely help in enhancing the healthcare system so that the best healthcare is received by everybody. One example of this is microbots that can directly enter the bloodstream and reach any place inside the body to deliver medicines. Another application of IoT and sensors in healthcare is remote patient monitoring wherein patients can be monitored 24/7 and emergency responders called if there are any problems.

**4. Public Transport**

Public transport, whether it be buses or trains, are at the heart of any city. This is especially true in big cities where there are big traffic jams and the metro train can be a lifesaver! However, smart public transport can streamline traffic and also make commuters’ life much easier. It is very convenient when the trains and buses are connected with a single app and you know exactly when the next service will arrive and how long you need to wait. In addition to that, predictive analytics can be used to optimize the routes of public transport which provide maximum benefit and minimum cost.

**5. Water Management**

There is no life without water! But water is also a finite resource which is reducing at an alarming rate. Therefore, using smart water management techniques in cities so that water can be conserved for future generations is a good idea. Sensors can be used to monitor water levels, pipe conditions, tank pressures, etc. in municipal water pipelines and tanks to optimize water management. These will ensure that water is not wasted and that problems like leaky pipes or high pressure in tanks can be handled without any loss of water. Sensors can also be used to monitor the groundwater levels so that they can be replenished if there is a groundwater shortage.

**6.Buildings**

Cities are obviously incomplete without buildings and larger cities have a lot of skyscrapers as well. Now the challenge is to build smart buildings using IoT where all the functionalities like lighting, air conditioners, heating, security, etc. can be connected and controlled from a single source. This will reduce the costs of operating a building as well as increase efficiency. For example, air conditions and heaters in a building can be set to change the internal temperature according to the outside temperature. Sensors can also be used to monitor the air quality inside the building and also automatically switch on lights only when there are people. All these actions will save a lot of energy and also reduce the electricity bill!

**7. Waste Management**

Waste management systems in a city can be optimized so that there is efficient waste collection and disposal which helps in keeping the city clean and hygienic. After all, mismanagement of waste can lead to contamination of the soil, air, and water as well as provide a breeding ground for a host of bacteria (not to mention the horrible smell!) But IoT technology with sensors in the waste bins can be used to find when the bins are full and dispose of them accordingly. This is better than just disposing the waste on particular days only when the bind might not be full sometimes or overflowing with the danger of contamination on other days.

**8. Parking**

It doesn’t sound like parking is a problem but it is actually a big headache, especially in large cities. Less available space means that drivers have to waste their time finding parking spaces and increase road traffic in this process ( while also becoming more and more irritated!) This issue can be solved by using IoT connected sensors around the city that point out the empty parking spaces around wherever your destination is. This data will also allow city officials to see where there is congestion due to less parking space and where there is lots of empty space available. This can then be used to optimize parking and prevent traffic jams as well as driver irritation!

### 9 Wearable technology

Wearables are often using for personal healthcare but nowadays they’re also becoming famous for uses other than that of smartwatches or simply health trackers.

### ****10 Facility Management****

The IoT sensors placed inside manufacturing equipment triggers alerts based on condition-based maintenance. Most of the machine tools are critical and are designed to function between a specific temperature and vibration ranges.

Whenever an equipment deviates from its prescribed parameters, IoT sensors can actively monitor machines and send an alert.

Manufacturers in this way can conserve energy, reduce costs, eliminate machine downtime and increase operational efficiency, by ensuring the prescribed working environment for machinery.