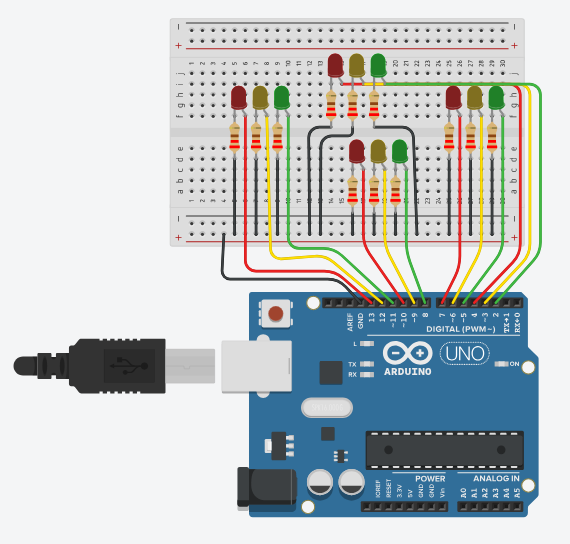
**SMART TRAFFIC MANAGEMENT**

Over the years, there has been a sudden increase in the number of vehicles on the road. Traffic congestion is a growing problem everyone faces in their daily life. Manual control of trac by traffic police has not proved to be efficient. Also, the predefined set time for the signal at all circumstances (low and high traffic density) has not solved this problem. A model to effectively solve the above-mentioned problems by using Internet of Things (IoT) is proposed. Smart Traffic management provide an organized, integrated approach to minimize the congestion and   improving safety on city streets through connected technology

**COMPONENTS REQUIRED:**

* ARDUINO UNO
* TRAFFIC SENSOR
* JUMPER WIRES
* BREAD BOARD
* LED

**CIRCUIT DIAGRAM:**



connections are made as per the circuit diagram.

Here’s a simple Arduino code to read the data from traffic sensor and to glow the LED .

int red\_1=13;  
int orange\_1=12;  
int green\_1=11;  
int red\_2=10;  
int orange\_2=9;  
int green\_2=8;  
int red\_3=7;  
int orange\_3=6;  
int green\_3=5;  
int red\_4=4;  
int orange\_4=3;  
int green\_4=2;  
  
void direction\_1\_green(void)  
{  
    digitalWrite(red\_1,LOW);  
    digitalWrite(orange\_1,LOW);  
    digitalWrite(green\_1,HIGH);  
    digitalWrite(red\_2,HIGH);  
    digitalWrite(orange\_2,LOW);  
    digitalWrite(green\_2,LOW);  
    digitalWrite(red\_3,HIGH);  
    digitalWrite(orange\_3,LOW);  
    digitalWrite(green\_3,LOW);  
    digitalWrite(red\_4,HIGH);  
    digitalWrite(orange\_4,LOW);  
    digitalWrite(green\_4,LOW); }  
  
void direction\_2\_orange(void)  
{  
    digitalWrite(red\_1,HIGH);  
    digitalWrite(orange\_1,LOW);  
    digitalWrite(green\_1,LOW);  
    digitalWrite(red\_2,LOW);  
    digitalWrite(orange\_2,HIGH);  
    digitalWrite(green\_2,LOW);  
    digitalWrite(red\_3,HIGH);  
    digitalWrite(orange\_3,LOW);  
    digitalWrite(green\_3,LOW);  
    digitalWrite(red\_4,HIGH);  
    digitalWrite(orange\_4,LOW);  
    digitalWrite(green\_4,LOW);  
     
}  
  
void direction\_2\_green(void)  
{  
    digitalWrite(red\_1,HIGH);  
    digitalWrite(orange\_1,LOW);  
    digitalWrite(green\_1,LOW);  
    digitalWrite(red\_2,LOW);  
    digitalWrite(orange\_2,LOW);  
    digital Write(green\_2,HIGH);  
    digitalWrite(red\_3,HIGH);  
    digitalWrite(orange\_3,LOW);  
    digitalWrite(green\_3,LOW);  
    digitalWrite(red\_4,HIGH);  
    digitalWrite(orange\_4,LOW);  
    digitalWrite(green\_4,LOW);  
     
}  
  
void direction\_3\_orange(void)  
  
{  
    digitalWrite(red\_1,HIGH);  
    digitalWrite(orange\_1,LOW);  
    digitalWrite(green\_1,LOW);  
    digitalWrite(red\_2,HIGH);  
    digitalWrite(orange\_2,LOW);  
    digitalWrite(green\_2,LOW);  
    digitalWrite(red\_3,LOW);  
    digitalWrite(orange\_3,HIGH);  
    digitalWrite(green\_3,LOW);  
    digitalWrite(red\_4,HIGH);  
    digitalWrite(orange\_4,LOW);  
    digitalWrite(green\_4,LOW);  
    }  
  
void direction\_3\_green(void)  
{  
    digitalWrite(red\_1,HIGH);  
    digitalWrite(orange\_1,LOW);  
    digitalWrite(green\_1,LOW);  
    digitalWrite(red\_2,HIGH);  
    digitalWrite(orange\_2,LOW);  
    digitalWrite(green\_2,LOW);  
    digitalWrite(red\_3,LOW);  
    digitalWrite(orange\_3,LOW);  
    digitalWrite(green\_3,HIGH);  
    digitalWrite(red\_4,HIGH);  
    digitalWrite(orange\_4,LOW);  
    digitalWrite(green\_4,LOW);  
    }  
    void direction\_4\_orange(void)  
{  
    digitalWrite(red\_1,HIGH);  
    digitalWrite(orange\_1,LOW);  
    digitalWrite(green\_1,LOW);  
    digitalWrite(red\_2,HIGH);  
    digitalWrite(orange\_2,LOW);  
    digitalWrite(green\_2,LOW);  
    digitalWrite(red\_3,HIGH);  
    digitalWrite(orange\_3,LOW);  
    digitalWrite(green\_3,LOW);  
    digitalWrite(red\_4,LOW);  
    digitalWrite(orange\_4,HIGH);  
    digitalWrite(green\_4,LOW);  
    }  
    void direction\_4\_green(void)  
    //green LED of direction 4 will turn ON  
{  
     digitalWrite(red\_1,HIGH);  
     digitalWrite(orange\_1,LOW);  
     digitalWrite(green\_1,LOW);  
     digitalWrite(red\_2,HIGH);  
     digitalWrite(orange\_2,LOW);  
     digitalWrite(green\_2,LOW);  
     digitalWrite(red\_3,HIGH);  
     digitalWrite(orange\_3,LOW);  
     digitalWrite(green\_3,LOW);  
     digitalWrite(red\_4,LOW);  
     digitalWrite(orange\_4,LOW);  
     digitalWrite(green\_4,HIGH);  
     }  
     void direction\_1\_orange(void)  
     //orange LED of direction 1 will turn ON  
     {  
         
         digitalWrite(red\_1,LOW);  
          
        digitalWrite(orange\_1,HIGH);  
        digitalWrite(green\_1,LOW);  
        digitalWrite(red\_2,HIGH);  
        digitalWrite(orange\_2,LOW);  
        digitalWrite(green\_2,LOW);  
        digitalWrite(red\_3,HIGH);  
        digitalWrite(orange\_3,LOW);  
        digitalWrite(green\_3,LOW);  
        digitalWrite(red\_4,HIGH);  
        digitalWrite(orange\_4,LOW);  
        digitalWrite(green\_4,LOW); }  
        void setup()  
        {  
            // Declaring all the LED's as output  
  
for(int I=2;i<=13;i++)  
pinMode(I, OUTPUT);  
  
} void loop()  
//In the loop function, we controlled the signal one // by one to control the flow of traffic.  
{  
    direction\_1\_green();  
    delay([5000](tel:5000));  
    direction\_2\_orange(); delay([3000](tel:3000));  
    direction\_2\_green(); delay([5000](tel:5000));  
    direction\_3\_orange(); delay([3000](tel:3000));  
    direction\_3\_green(); delay([5000](tel:5000));  
    direction\_4\_orange(); delay([3000](tel:3000));  
    direction\_4\_green(); delay([5000](tel:5000));  
    direction\_1\_orange(); delay([3000](tel:3000)); }

**UPLOAD THE CODE TO YOUR ARDUINO UNO:**

1. Open the ARDUINO IDE on your computer.
2. connect your Arduino UNO to your computer via USB.
3. Select the correct board and plot under the “tools “menu.
4. copy and paste the above code into the Arduino IDE.
5. click the “upload” button to upload the code to your Arduino Uno.
6. simulate the code to get the output.