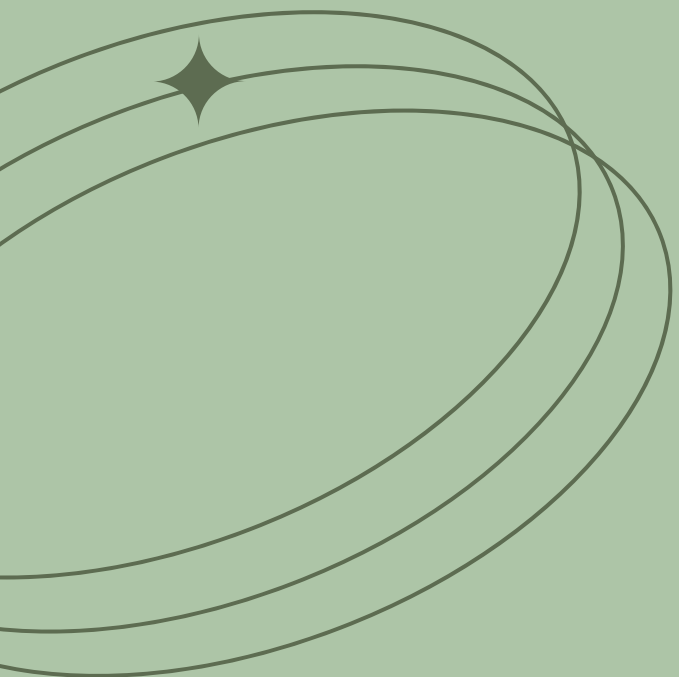


Group Project

Traffic Management using IoT

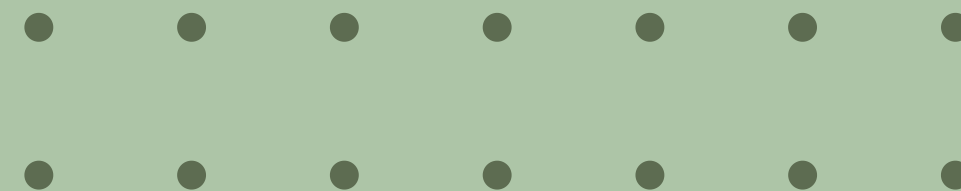




Our Team

Poornima @ Buvana. R

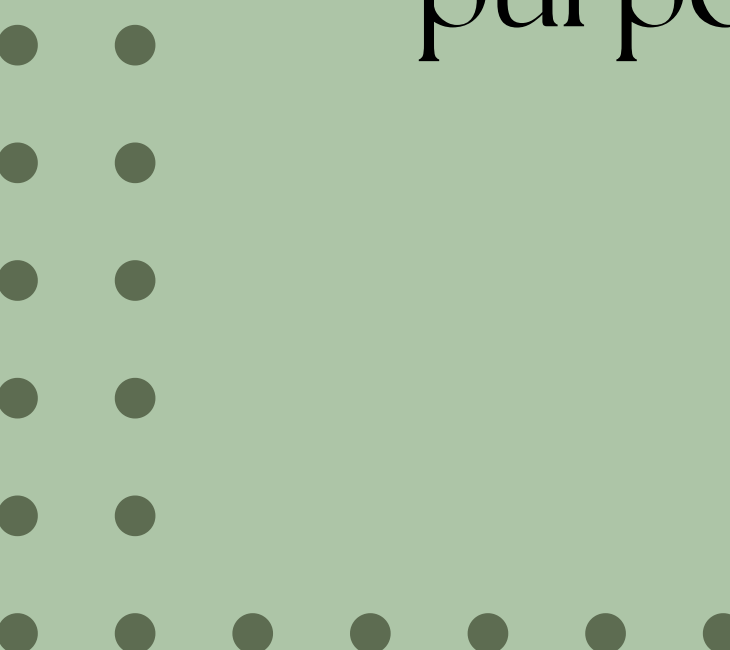
Sivaranjani. S



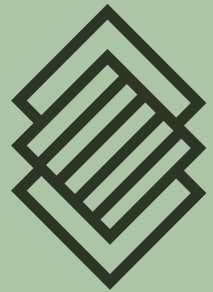


INTRODUCTION

The Internet of Things (IoT) describes the network of physical objects—“things”—that are embedded with sensors, software, and other technologies for the purpose of connecting and exchanging data with other devices and systems over the internet.



OBJECTIVES



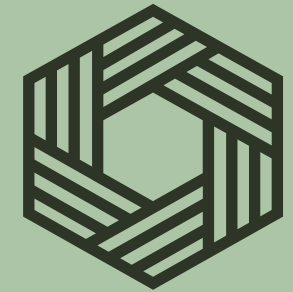
**Improved
Traffic Flow**



**Enhanced
Safety**



**Reduced
Congestion**



**Environmental
Impact
Reduction**

Importance of Traffic Management

1

Restricting vehicle
access to
pedestrian-only
areas

2

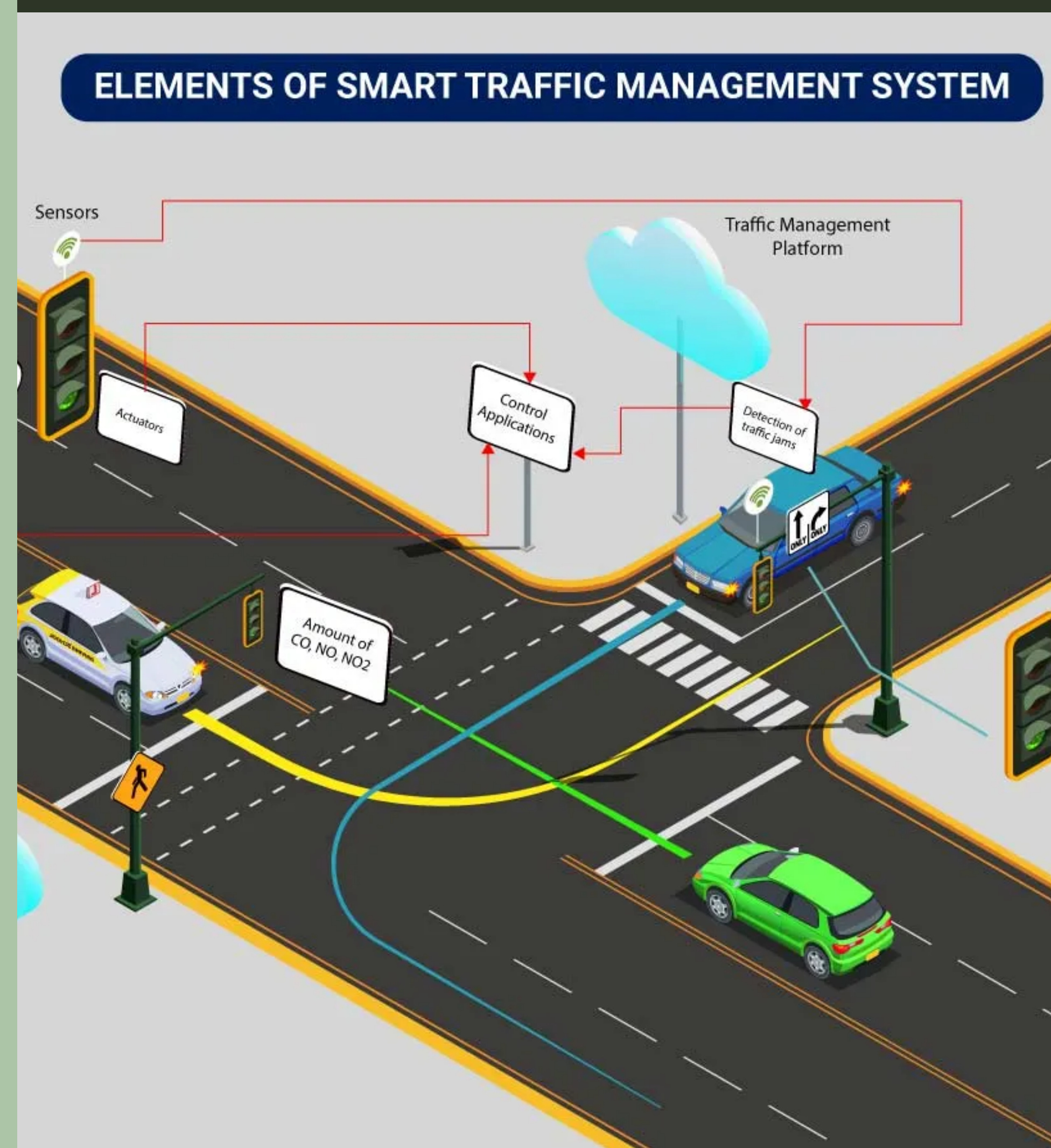
Preventing
trespassing on a
commercial property
outside of business
hours

3

Controlling access
to a toll road or
private parking lot,
allowing only
authorized users

The Challenge of Traffic Congestion

- The most common form of traffic congestion is saturation on the road.
- The population of India is ever-increasing and jams occur when the number of cars is more than the roads can support.
- It is a recurring problem for people that travel the same congested route every day for work or back home.



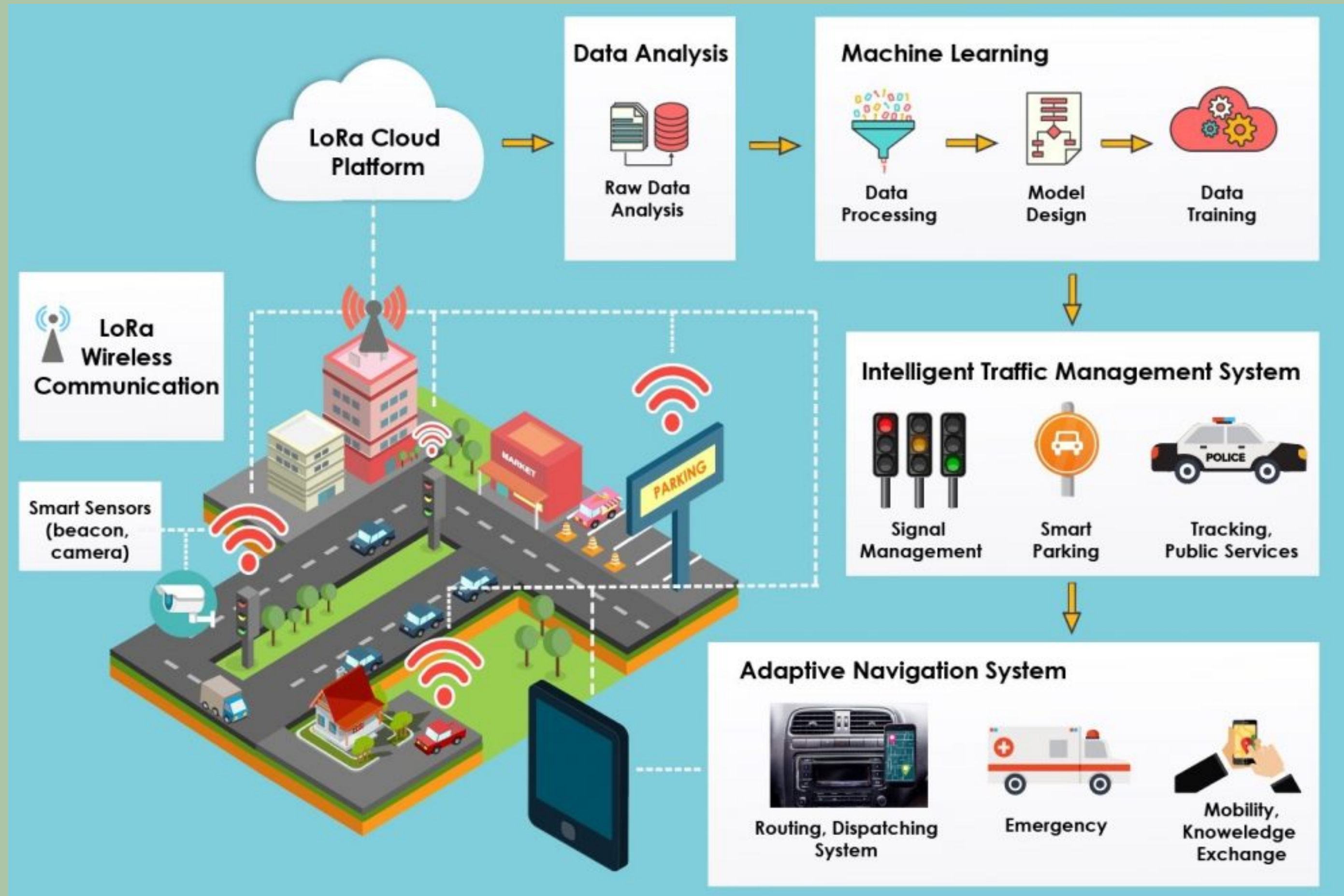
Role of IoT in Traffic Management

- **Optimize the traffic flow and keep the drivers safe. It would include cameras, sensors, and cellular technologies that automatically adjust traffic lights, expressway lanes, speed limits, and highway exit counters.**
- **Transmit accurate information about available parking spaces to citizens in real-time**
- **Collect data on congestion and improve traffic signaling to reduce blockages and optimize commute**
- **Locate incidents and report them to emergency rooms immediately with road sensors and video surveillance**
- **Employ real-time data feeds to ensure the streetlights turn dim or brighten up per the changing weather conditions and the onset of day and night**

Classification of sensors used in a vehicle

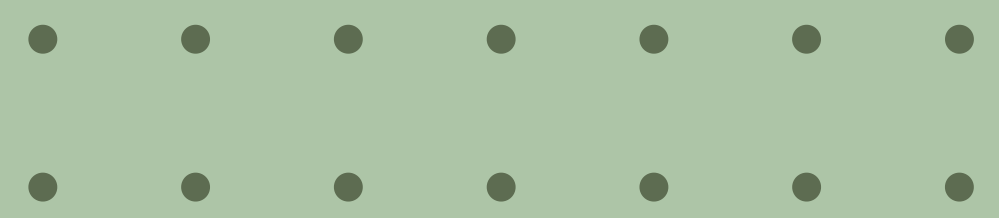
Category of Sensors	Description	Example
Safety	Form the basis of safety systems and focus on recognizing accident hazards and events almost in real-time.	Micro-mechanical oscillators, speed sensors, cameras, radars and laser beams, inertial sensors, ultrasonic sensors, proximity sensors, night vision sensors, haptic.
Diagnostic	Focus on gathering data for providing real-time information about status and performance of the vehicle for detecting any malfunction of the vehicle.	Position sensor, chemical sensors, temperature sensors, gas composition sensors, pressure sensor, airbag sensor.
Traffic	Monitor the traffic conditions in specific zones, gathering data that improves the traffic management.	Cameras, radars, ultrasonic, proximity.
Assistance	Responsible for gathering data that provide support for comfort and convenience applications.	Gas composition sensor, humidity sensors, temperature sensors, position sensors, torque sensors, image sensors, rain sensors, fogging

conti...





MY ROLE

- **System Maintenance and Troubleshooting:**
IoT specialists and field operators should be responsible for maintaining and repairing IoT devices and sensors.
 - **Testing and Simulation:**
Conduct regular testing and simulation exercises to ensure that team members are prepared to handle various traffic scenarios effectively.
- 

Thank
You

