

Lock down Management System For Public Transportation

IMPLEMENTATION OF SMART ROAD

1.ADOPTING IOT TECHNOLOGY

IOT Technology:

The internet of things, or IOT, is a system of interrelated computing devices, mechanical and digital machines, objects, animals or people that are provided with unique identifiers (UIDs) and the ability to transfer data over network without requiring human-to-human or human-to-computer interaction.

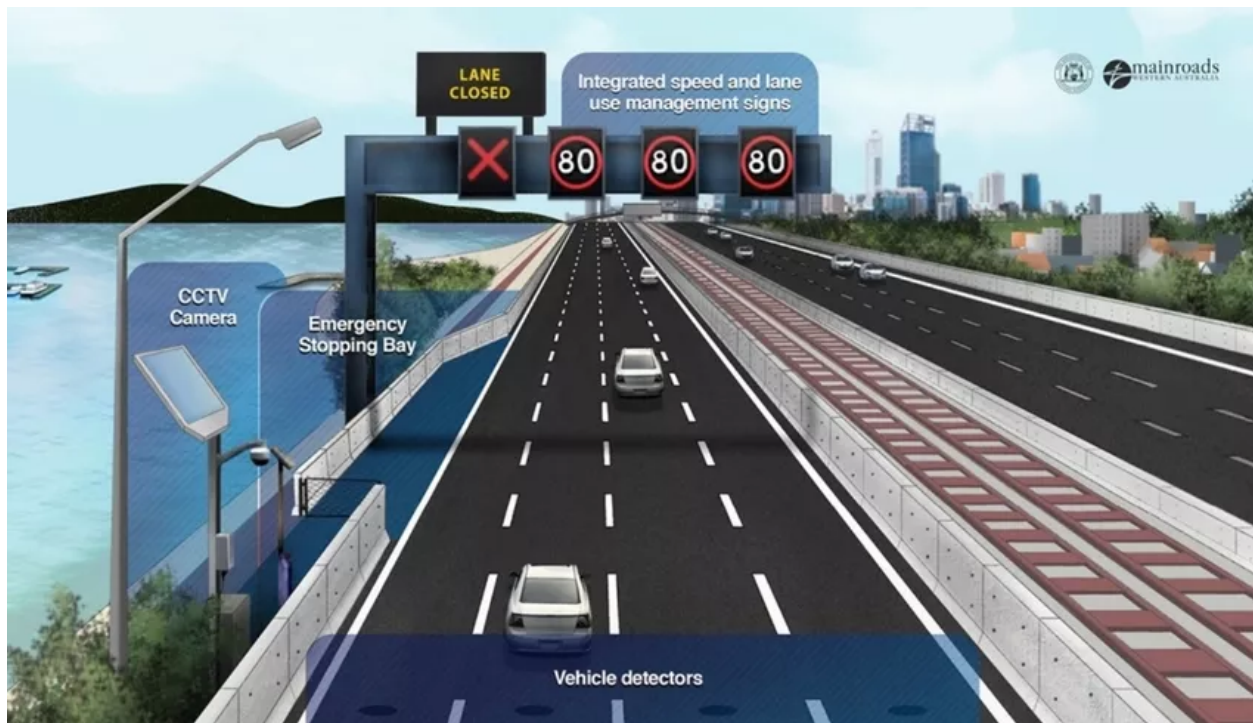
Smart Road:

Smart road is a term used for a number of different ways of technologies are incorporated into roads, for improving the operation of connected and autonomous vehicles, for traffic light and monitoring the condition of roads and etc.

- 1.Introducing smart application having QR code and scanner to public.
- 2.Providing QR code to each profile through application.
- 3.Placing the QR code scanners at each check post .
- 4.Collecting data through scanning the QR code. while, entering main road and leaving from it.

which helps in identifying the people travelled through the route. Inturn, helps in identifying corona patient and idle people or road roamer

Lock down Management System For Public Transportation



Smart road : 1.CC TV, 2.Vehicle detector, 3.Emergency stopping bay, 4.Lane management signs

Smart Traffic Systems:

Smart lights, sensors, and detectors embedded in infrastructure are not futuristic ideas, they are components of smart traffic systems used in many cities today. As,lock down completes efficient transportation becomes critical for quality of life, economic productivity and the

Lock down Management System For Public Transportation

environment. Smart traffic systems are an easy way to improve all of these, without requiring large investments in physical infrastructure.

In this page we'll cover:

- [Smart traffic management](#)
- [Smart traffic system components](#)
- [An in-depth look at smart traffic lights and signals](#)
- [How big data and IoT make traffic management even smarter](#)

What Is Smart Traffic Management?

Smart traffic management is a system used to regulate city traffic. It uses sensors and traffic signals to monitor, control and respond to traffic conditions. These centrally managed sensors and traffic signals are found on the city's main roads.

The aim of smart traffic management systems:

- **Reduce day-to-day congestion** by improving traffic flow
- **Prioritize traffic** according to real-time changes in traffic conditions
- **Reduce** traffic jams
- **Prioritize buses entering intersections** and use phasing lights to ensure to flow of buses through the city
- **Improve traffic incident response time** by creating a more effective system to monitor and manage traffic incidents

Lock down Management System For Public Transportation

Smart Traffic Control System Components

Many cities still employ inefficient traffic signals that change at predetermined times. New responsive smart traffic systems acquire data and update signal lengths according to traffic demands.

Smart traffic control systems generally use three devices:

- A central control system
- Smart traffic lights
- Cameras and queue detectors

The cameras and queue detectors inform the control system of real-time traffic conditions on busy city roads. Every two seconds, the control system calculates whether it is necessary to adjust traffic light activity. A smart traffic control system immediately adapts and adjusts to improve punctuality of buses, reduce the number of queuing vehicles in slip lanes, and make other changes that can improve the efficiency of traffic and reduce pollution.

Smart Traffic Lights And Signals

Smart traffic lights minimize inefficiencies such as traffic jams or vehicles waiting at empty intersections. A network of smart traffic lights can identify patterns in traffic conditions and update their signals in real time.

Lock down Management System For Public Transportation

Smart traffic signals improve traffic flow by:

- **Detecting congestion:** Traffic lights and sensors collect information from infrastructure sensors and communicate with vehicles on the road, using this information to influence traffic patterns.
- **Synchronizing activity between traffic lights:** Sensors placed at intersections gather information about traffic conditions to synchronize traffic light activity.
- **Updating traffic light timing in real time:** Traffic lights adjust their timing according to real-time traffic conditions. Traffic lights are thus no longer limited to providing signals at predefined time intervals.
- **Updating and informing drivers of ideal speeds:** Some smart traffic lights help drivers by suggesting an optimal driving speed. Drivers who maintain this speed will always reach the next traffic light when it is green. This helps regulate traffic, and creates a concept of “always green traffic lights”.
- **Prioritizing transportation flow:** Traffic lights and signals prioritize public transportation over private vehicles; when buses, ambulances, taxis or cyclists approach a traffic light, they always receive preference over private cars in the intersecting road.

Smart traffic lights have several benefits:

- **Reduce congestion and time spent on the road** to improve efficiency

Lock down Management System For Public Transportation

- Make the road safer, reducing the chance of accidents
- Provide data to further improve transportation

How Big Data And IoT Make Traffic Management Even Smarter

A city should leverage big data and the Internet of Things (IoT) as part of its smart traffic system. IoT, in the context of traffic management, refers to smart, connected devices like sensors, vehicle-mounted information systems, and even private mobile phones. These devices transfer information via the internet to a central system for analysis. Big data analysts are responsible for analyzing this data, and using it to improve traffic management and flow.

Smart cities have IoT devices, in the form of sensors and detectors spread throughout the city and embedded in infrastructure. IoT and big data can impact traffic management in the following ways:

1. **Smart traffic lights:** Smart traffic lights need data to operate. IoT sensors mounted under roads, in traffic cameras, or in vehicles, collect data and feed it to a big data management center for analysis. As a result of the analysis, the management center can feed optimal lighting patterns back to traffic lights.
2. **Smart parking:** IoT uses GPS and underground sensors to detect available parking spots. Consumers can access this information via apps or notifications.

Lock down Management System For Public Transportation

3. **Smart roads:** Sensors can be embedded in traditional asphalt roads, making them a part of the interconnected smart traffic system. Under-road sensors can detect the location and speed of a vehicle, which encourages drivers to adhere to traffic regulations. Sensors allow emergency teams to receive alerts when an accident has taken place and guide them to the site of the accident. They can also notify drivers of upcoming hazards.
4. **Smart data analytics:** IoT devices with cameras can collect camera footage from new locations and vantage points. Officials, as well as AI-driven software, can analyze this footage to better manage congestion, and notify those responsible for accidents or hazards.
5. **Public transportation:** Sensors collect data via IoT to ensure that public transport runs on time. Public transportation is slowed down by a variety of factors such as weather conditions or accidents that take place along a bus route. Real-time data can help officials identify issues and take measures to ensure the smooth flow of traffic.

Smart Traffic Systems: The New Digital Infrastructure Solving The Traffic Problem

In the twentieth century, the only way to improve traffic flow and reduce congestion was physical infrastructure. Adding or improving roads is a

Lock down Management System For Public Transportation

complex, expensive and disruptive effort, and offers only a partial solution.

Smart traffic systems are a revolution because they can have a dramatic effect on traffic flow and congestion at a small fraction of the cost of building a new road. More importantly, they address the root of the problem—regulating traffic patterns, improving public transport and effectively balancing private and public transportation.

Rather than just adding more capacity, while traffic volumes grow unchecked, smart traffic systems can actually reduce and contain the traffic problem. They can improve quality of life, reduce pollution, and even save lives, reducing the number of accidents by providing real-time information to drivers and helping cities regulate traffic on busy roads and intersections.