PHASE - 2

TRAFFIC MANAGEMENT SYSTEM

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INNOVATIONS

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1. Traffic Light Optimization

Smart programming and digitization can be used to control traffic light operations in both large and small urban areas. When traffic lights coordinate ideally and respond to demand in real-time, road capacity can be maximized quickly.

Smart traffic lights can also be synced to the movement of larger vehicles or conditioned to respond appropriately to situations like gridlock or blockage. All of this programming can be done with expert knowledge of the non-linear relationship between traffic flow and delay.

2. Parking Zone Extension

The exacerbation of traffic congestion in urban areas is mostly a result of limited parking spaces. Even in larger cities, controlled parking zones are limited to certain main streets. There is usually an unbalanced mix of residents' parking, pay and display, and limited wait parking zones.

The best way to tackle congestion is to extend parking controls away from the city center and formulate smart parking zones, even in less crowded areas. To enhance their functioning further, these parking zones can have virtual permits, 1-hour time limits, and regular .

3. Autonomous Vehicle Usage

While using autonomous or self-driven vehicles will not reduce congestion quantitatively, it will help manage traffic in a more advanced fashion. Without human intervention, smart cars can practice effective collision management, discover new roads to reach a destination, platoon perfectly, and gather data about free and empty parking zones to decide the best parking spot. Moreover, smart vehicles will also eliminate traffic jams caused solely due to human error. All of these combined reduce both commute time and congestion well.

3.Levying Workplace Parking Charges

Most workplaces offer their employees the option of free parking. This incentive encourages people to commute to the office every day in separate cars since they don't have to pay anything to park at the office even for long hours. A workplace parking fee is known to have a significant effect on both congestion and pollution. Levying a charge on workplace parking can be useful in promoting carpooling amongst employees, which will, in turn, reduce congestion on roads. It will also improve public transport usage and allow both private and public firms to re-evaluate their parking space usage.

4. Pedestrian Traffic Monitoring

Smart city management authorities should not blatantly assume that the sole cause of traffic congestion is vehicle traffic. Pedestrian traffic, when ignored, is equally worrying.

Having realized this, cities like Las Vegas and Los Angeles are using V2I technology to monitor pedestrian traffic and reroute vehicle traffic accordingly. The data thus collected is also useful in traffic light optimization to increase road safety.