

Traffic detection

Implementation

Evaluation & Optimization

Safety

Management

Regulations

Environment

Maintenance

Will this system be implemented in streets with pedestrian crosswalks?

How will the system detect and respond to vehicles that do not comply with traffic signals, such as those running red lights?

How will the system react in case an emergency vehicle, like an ambulance, needs to take the street where it is implemented?

Does the system need to take into account the non-motorized vehicles? (Ex.: bicycles, scooters, etc.)

How will the system, if it should, differentiate between various types of vehicles? (Ex.: cars, trucks, motorcycles, etc.)

What kind of information the sensors need to retrieve to accurately optimize the traffic flow?

Where should the information retrieved be saved? And in which format?

What kind of technologies/sensors (for example cameras, radars, infrared, etc.) are going to be used for detecting the speed and volume of incoming traffic?

Should areas of high-intensity traffic only be considered? Or is the system going to be implemented in all traffic areas?

What kind of algorithms and models should we implement?

How should the systems communicate with each other?

How will the system communicate with the remaining traditional traffic lights?

What kind of infrastructure will we need for this type of system? Does this new infrastructure need to be built?

How frequently should the information be collected and updated? Regarding the data retrieved from the sensors

What kind of safety measures will be implemented to ensure the system does not create dangerous traffic situations?

How should the system react in case of a power outage and other technical failures to ensure the safety of all drivers?

Should the system be aware of weather conditions and work with that information to optimize the traffic flow maintaining the safety of the drivers?

What kind of safety benefits will this system provide?

Should the system work without any connection to the Internet?

Can the system be implemented on a multiple-lane road?

How will the system prioritize traffic flow from different directions during peak and off-peak hours?

Should the system include features to support autonomous or semi-autonomous vehicles in the future?

How will the system handle traffic flow during special events or holidays that significantly alter normal traffic patterns?

How will the system learn and adapt the traffic patterns over time?

In what countries is this system going to be implemented?

Should the system be operated/managed remotely?

What state should the system assume to prevent disruption in the traffic flow?

Does the system need to be designed to easily change the traffic regulations in the case of change in the future?

What will be the main source of energy for the system? (Ex.: Solar, power grid, etc.)

What is the benchmark, i.e., how efficient is the current solution and what will be a good measure to determine if this system is better than the existing one considering traffic flow, time, fuel and the environment?

What are the potential impacts of the system on public transportation?

Will the system offer any functionalities to support road maintenance and construction work zones to minimize traffic disruptions?