Project Design Phase-I
Proposed Solution Template

Date	13 November 2022
Team ID	PNT2022TMID54421
Project Name	Signs with Smart Connectivity for Better Road Safety
Maximum Marks	2 Marks

Proposed Solution Template:

Project team shall fill the following information in proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	To replace the static signs with smart connected sign boards to avoid accidents caused by heavy traffic and collision. This also provides a smooth flow of traffic in adverse weather.
2.	Idea / Solution description	The project aims at digitalising the existing static signboards and enabling a smart connectivity between them to obtain and deliver data regarding the weather condition ,terrain condition ,speed limits etc to have a safe and smooth flow of vehicles. The temperature and weather conditions are obtain using OpenWeatherMap API and these data are used to update the speed limit in accordance with the weather or other issues. In this sign board buttons are present where each have a different functionality like warning signs near schools and hospitals. So when this button is activated via the web or physical buttons the speed limit will be set depending upon these zones. Based on the weather or sensitive zones the user is altered with suggested speed limits.
3.	Novelty / Uniqueness	Generic sign boards for all application that uses both web app and physical button for updating the traffic signs. Openweatherapp provides global weather data forecasts and historical weather data to enable alteration of traffic signal based on weather condition for long distance travel. Speed alteration in accordance with sensitive zones.
4.	Social Impact / Customer Satisfaction	Customer reach destination before the expected time. Pedestrians can cross the road when there is no traffic without waiting for the change in the signboard. Need for Speed limit alteration is indicated to the driver.

5.	Business Model (Revenue Model)	Since API is used to obtain information about the customer's travelling environment the revenue depends on the length of time the product is used. Though it is free to public and provides them with various information regarding road for different functionalities and these functionalities will increase the value of the product in the global market.
6.	Scalability of the Solution	This product is highly feasible as the hardware components can be easily interfaced with the microcontroller and programmed according to the change made. similarly the software should be updated according to the change. By this the new functionality can easily be integrated to the existing functionality without affecting it .a separate circuit is connected to the hardware to detect any problem and notification will also be sent to product service department.