Project Design Phase-I
Proposed Solution Template

Date	19 September 2022
Team ID	PNT2022TMID54276
Project Name	Project – 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 signboards, smart connected sign boards are used. These smart connected sign boards get the speed limitations from a web app using weather API and update automatically. Based on the weather changes the speed may increase or decrease Based on the traffic and fatal situations the diversion signs are displayed. Guide (Schools), Warning and Service (Hospitals, Restaurant) signs are also displayed accordingly. Different modes of operations can be selected with the help of buttons.
2.	Idea / Solution description	Smart traffic signals can also be programmed to react properly to conditions like gridlock or blockage or to the movement of heavier vehicles. The weather and temperature details are obtained from the Open Weather Map API. Using these details, the speed limit will be updated automatically in accordance with the weather conditions. In addition to that we have ultrasonic sensor to measure the distance of the vehicles and control the speed breaker, If the vehicles are present, the speed breaker will be present otherwise it is absent. The

		presence and absence of speed breaker is notified in the digital board.
3.	Novelty / Uniqueness	Generic Sign board for all applications that uses web service and sensors Pedestrians are given the access to request the sign change of the signal to cross the road
4.	Social Impact / Customer Satisfaction	Pedestrians do not need to wait to cross the street if there is no traffic. Customer can reach at the target destination earlier than expected time. Presence of speed breaker is shown at a long range
5.	Business Model (Revenue Model)	Since APIs are used to actively monitor the customer's environment, this project employs a business strategy in which revenue will be generated on the basis of the length of time in which the customers actively interact with the product. This product is aimed to be free of cost to the public, but the revenue will be generated by selling this product to the government at a low cost, so there will be less accidents and the public will be aware of the discrepancies or accidents in the particular road. The public will also gain all the information about the road, even if they are checking for an alternate path because of some mishaps that happen on the roads and these functionalities will increase the value of the product in the global market.
6.	Scalability of the Solution	Future updates that are needed can be quickly applied, whether they are on the hardware or software side. The programming of the present product can be slightly modified and the hardware components can be directly interfaced with the microcontroller. The website application must be updated with the new capabilities in the case of software by adding a new section for the updated hardware.

		As a result, the product's current functionality won't be impacted, and new functionality can be added with ease. Along with the hardware, a separate circuit will be preserved to detect any issues and alert the web application. A notification will also be forwarded to the product service division.