Problem Solution Fit

Project	**Signs with smart connectivity for better road safety**
Team ID	**PNT2022TMID39232**

1	How can cities help improve traffic safety and reduce the number of traffic deaths?	You can’t solve that problem if you don’t know when and where crashes happen. Working with IBM, they also collected weather data from the Weather Company, insurance claims data, and events data. Transformational technologies such as IoT and AI help us
2	The problems in these curve roads is that the drivers are not able to see the vehicle or obstacles coming from another end of the curve?	If the vehicle is in great speed then it is difficult to control and there are chances of falling off a cliff. Hence there is a need of many road safety systems. To avoid these problems in curve roads of mountain areas, Nevon projects has proposed this vehicle accident prevention system. This accident prevention system using sensors is powered by Arduino board, it consists of IR sensors, LED lights, and buzzer. When two cars pass from the opposite side of a mountain curve the IR sensor senses the car and LED colour changes to red and raises the buzzer giving signal of danger and then it changes one LED colour into green to allow the one car to pass and then the other LED colour turns green. In this way we can prevent the accidents of curved road.
3	Is safety signboard and web app is useful ?	In present Systems the road signs and the speed limits are Static. But the road signs can be changed in some cases. We can consider some cases when there are some road diversions due to heavy traffic or due to accidents then we can change the road signs accordingly if they are digitalized.This project proposes a system which has digital sign boards on which the signs can be changed dynamically.If there is rainfall then the roads will be slippery and the speed limit would be decreased.There is a web app through which you can enter the data of the road diversions, accident prone areas and the information sign boards can be entered through web app. This data is retrieved and displayed on the sign boards accordingly
4	So how do IoT and connectivity technologies can help improve road safety?	Fleet managers can monitor their fleets’ flow velocity in real-time, which makes it easier to warn drivers about speeding and other incorrect behaviors. Drivers can receive updated information on the road, traffic, and weather conditions, and real-time information about their vehicles' pressure and temperature of tires, fluid levels, deterioration, and battery state, decreasing breakdowns and, therefore, prevent

		accidents. It also allows to a company to reroute vehicles to the most efficient routes, immediately after the original route is blocked by an accident. With 5G, vehicles will be able to communicate between them in real time. The geolocation data will enable these connected vehicles to share each vehicle's speed and position, resulting in fewer collisions and emergency braking maneuvers.
5	How to prevent disaster. by using IoT in road safety?	When roadblocks rear their unwanted heads, they can cause congestion and fatalities. Additionally, updates to transportation infrastructure can create potholes and make bridges more vulnerable. These complications make drivers more susceptible to accidents. IoT technology provides a solution to this ongoing problem. With IoT sensors and smart cement, cities can track the progress of infrastructure projects. Furthermore, this technology can notify authorities when setbacks occur. As a result, drivers remain out of harm's way and, in turn, gain peace of mind. For added disaster prevention, communication systems are being employed. This intelligent technology transfers information that helps manage traffic situations. With this heightened awareness, people can protect themselves and others. Waze is a prime example of how this software is being optimized. With guidance from GPS navigation software, drivers can deviate from dangerous paths.
6	By this technology, can you able to stop an accident?	Unfortunately, most road accidents are caused by human error. From speeding to driving under the influence, people are primarily to blame for collisions and casualties that happen on the road. While there are rules to help prevent these unfortunate scenarios, not everyone abides by these necessary regulations. Not only can IoT technology hold drivers accountable, but it can also encourage them to adopt safer habits. Telematics companies are at the forefront of these developments. For example, to help fleet management companies reduce accidents, telematics corporations use IoT technology to collect data and give insight into what a driver is doing. For instance, telematics can determine how fast a driver is traveling, if they're wearing a seatbelt, and if they're driving recklessly. This information helps companies identify which safe driving practices are being neglected. From there, they can improve driver behavior through informed decision-making and educated analysis.
7	Maximum road accident is due to human error , how can you control it?	i) Improving driving behaviour using AI to detect drowsiness and track driving behaviour to incentivize by rewarding good driving scores.

		ii) Improving School Zones by training children and creating social awareness through children. iii) Improving enforcement system by detecting traffic violations using IoT, AI, cameras and automated penalty tickets on PPP model. iv) Improving emergency service availability within golden hours using IoT, AI, QR codes for emergency help services and alerting before blackspot.