

Project Design Phase-II
Solution Requirements (Functional & Non-functional)

Date	15 October 2022
Team ID	PNT2022TMID39434
Project Name	Project - Signs with Smart Connectivity for Better Road Safety
Maximum Marks	4 Marks

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	Pedestrian Aspects	The field element shall collect pedestrian sensor data and respond to pedestrian crossing via display (pedestrian sign indication) and control traffic signs accordingly.
FR-2	Density based vehicle aspects - Transit Signal priority	The field element collect information about emergency vehicle in which green time is extended or red time is truncated in traffic signs and expedite movement of authorized emergency vehicles. The transit signal priority shall include rules to negotiate competing calls for priority.
FR-3	Monitoring Aspects	The field element shall monitor operation of the traffic signal controllers and report to the centre any instance in which the indicator response does not match that expected from the detectors and sensors.
FR-4	Interface aspects	The field element shall include traffic sensor that receive control information to other field element devices (such as traffic controllers at adjacent intersections and dynamic message signs).
FR-5	Simultaneous working aspects:	Our project focus on both the pedestrian and vehicular users to reach their place safely and on time respectively. This parallel mechanism helps to save time and processing of data

Non-functional Requirements:

Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	It's used for the people who cross the road slowly, and for density change its useful for who rushing to the exams or meeting's. It is used in order to increase the safety of pedestrians that can find themselves at the same

		time with vehicles on road, the automobiles and roads are fitted which controls traffic congestion
NFR-2	Security	<p>The storing data are not important for any kind of illegal activity.</p> <p>In this project, security aspects are not much issues. Only the data of vehicles counts and people count detected thus the security won't be an issue. The security on their database includes firewalls to prevent unauthorized access.</p>
NFR-3	Reliability	It significantly improves the efficiency and safety of pedestrian traffic from making the right decision in multimode transport. And it also reduces the traffic congestions and accidents.
NFR-4	Performance	It provides Quality of service by reducing the latency in the traffic sign boards. Thus, the processors are faster
NFR-5	Availability	It's available for 24x7 hours and in any climate conditions.
NFR-6	Scalability	This data are not stored for long time so the disk space can be free it helps to handle large data with a fast execution.