

# Case Studies of Existing Hazards in Petrol Stations in Chennai City and Recommendation for Remedial Measures

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**Abstract**—Tremendous increase in the numbers of vehicle in roads causing delay in road transportation and accidents nearer to petrol stations due to reason that petrol stations are not constructed and maintained as per the guidelines. This project work aims to bring some remedial measures related to the hazards that arose in some of the petrol filling stations in Chennai city. Observations has been made in petrol stations and has been compared with the norms. As a result a proper recommendations are suggested satisfying the norms and a new layout has been designed. Thus if a petrol station is built and maintained with these suggestions made the traffic jam and accidents occurring nearer to petrol stations can be reduced.

**Keywords**—Petrol Stations, Hazardous Effects, Chennai City, Safety Measures

## I. INTRODUCTION

The petrol stations that are seen within the city limits are not usually constructed in large space due to lack of sufficient land area. Thus they are not constructed with the proper guidelines and the norms. No proper sign boards are also provided thus causing accidents.

Increase in the vehicles will cause traffic jam and inconvenience in driving due to improper construction. The petrol stations are constructed in profit criteria, thus it is also necessary to see the convenient for the drivers to reduce the accidents and traffic jam near the petrol stations. Safety equipment's and first aid kits are also to be provided in the petrol stations so as to control the accidental damage that could be hazardous since petrol is inflammable.

## II. OBJECTIVES OF THE STUDY

The main objective of this project is to identify the hazards in petrol stations by physical observation on the stations. By which it could be compared with the norms to provide satisfactory criteria with the existing petrol station. Existing layout of the petrol station is prepared with the observed data that has to be compared with the guidelines and norms.

A new layout is to be designed satisfying the norms. Recommendations are to be suggested to reduce the hazardous effects occurring in and around the petrol filling stations.

## III. METHODOLOGY

Literature study has been made related to the petrol station to know about the guidelines and norms. As they were studied, observations were made on the petrol stations to determine the hazardous effect. Remedial measures are to be given to reduce

the disaster occurrence. A new layout has to be prepared satisfying the rules and regulations. As a result proper recommendations are been suggested to overcome the accidents and traffic jam occurring near the petrol station.

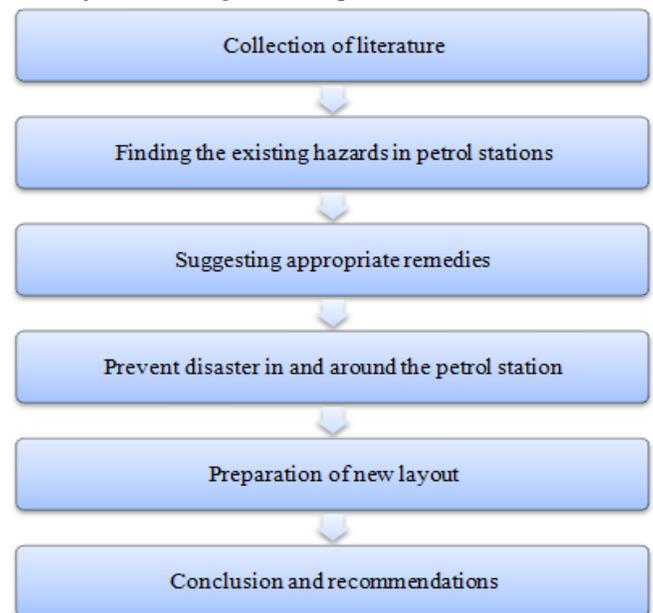


Fig 1: Flow Chart for Methodology

## IV. DATA ANALYSIS

All the respondents are from Chennai city and the data's were collected mainly from those belonging to middle management level like safety engineers and contractors.

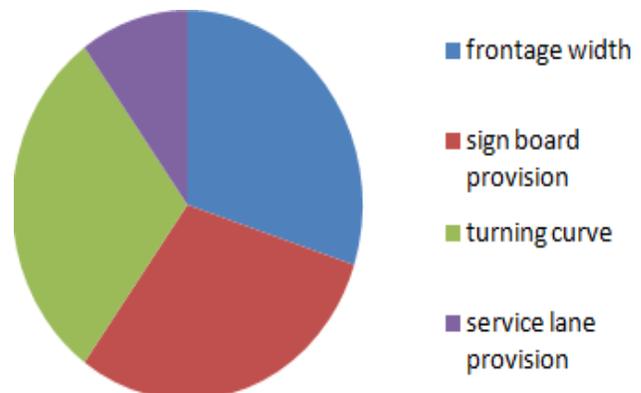


Fig 2 : Data disatisfying norms collected from a petrol station located at NH-45, poonamalle, chennai

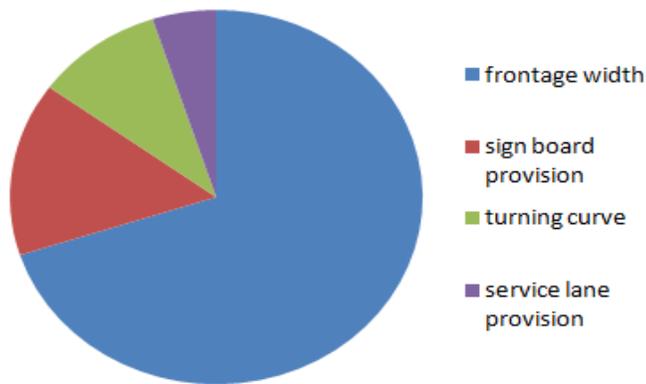


Fig 3 : Data dissatisfying norms collected from a petrol station located at jawarharlal nehru road, koyembedu, chennai

#### V. CONCLUSION AND RECOMMENDATIONS

Thus the above data's that has been dissatisfied when compared to the norms are represented. Those errors are to be rectified by giving proper guidance. It can be impractical and prohibitively costly to design fire protection facilities.

The usual requirement of a good system is to prevent emergencies from developing into major threat to the petroleum installation and surroundings. The accidents may occur for different reasons ranging from malfunctioning of an installed mechanical device to mistake committed by any personnel.

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