

CHAPTER 4

METHODOLOGY

The complexity of traffic accident scene is rapidly increasing due to urban expansion, increase in population and motorized and non-motorized vehicles, difficulties in introducing various traffic management measures etc., as discussed in previous chapter. The following operations are carried out to analyse highway traffic accident scene in National Highway-67.

Detailed review of various accident studies made and models built in different countries to understand the accident scene is made. Critical review of the models used by various researchers reveals the efficiency of the models already built. The need to have a regression model to suit traffic conditions and road environment prevailing in Indian Highways has been established.

Important factors directly contributing to the highway accident scene under different traffic characteristics and road environment conditions commonly seen in Indian highways are identified and discussed in detail.

A model with important variables is identified. It is found to be a Multiple Linear Regression type to account for important independent variables associated with the accident scene. Based on jurisdiction under respective Police stations, nine segments of varying length are identified in NH-67. Data pertaining to important variables required to 'build, calibrate and evaluate' the behaviour of the model and its properties are estimated. Data from secondary and primary sources are collected. Model is based on

stepwise regression analysis using SPSS software. Techniques are devised to decide the variables which should form part of the model to be used. Model is tested for its acceptability by considering its applicability to estimate accidents recorded in the past.

The model is used to estimate the accident scene for the given segment with different conditions. The sequential operations in this study are explained by the following flow chart as shown in Figure 4.1.

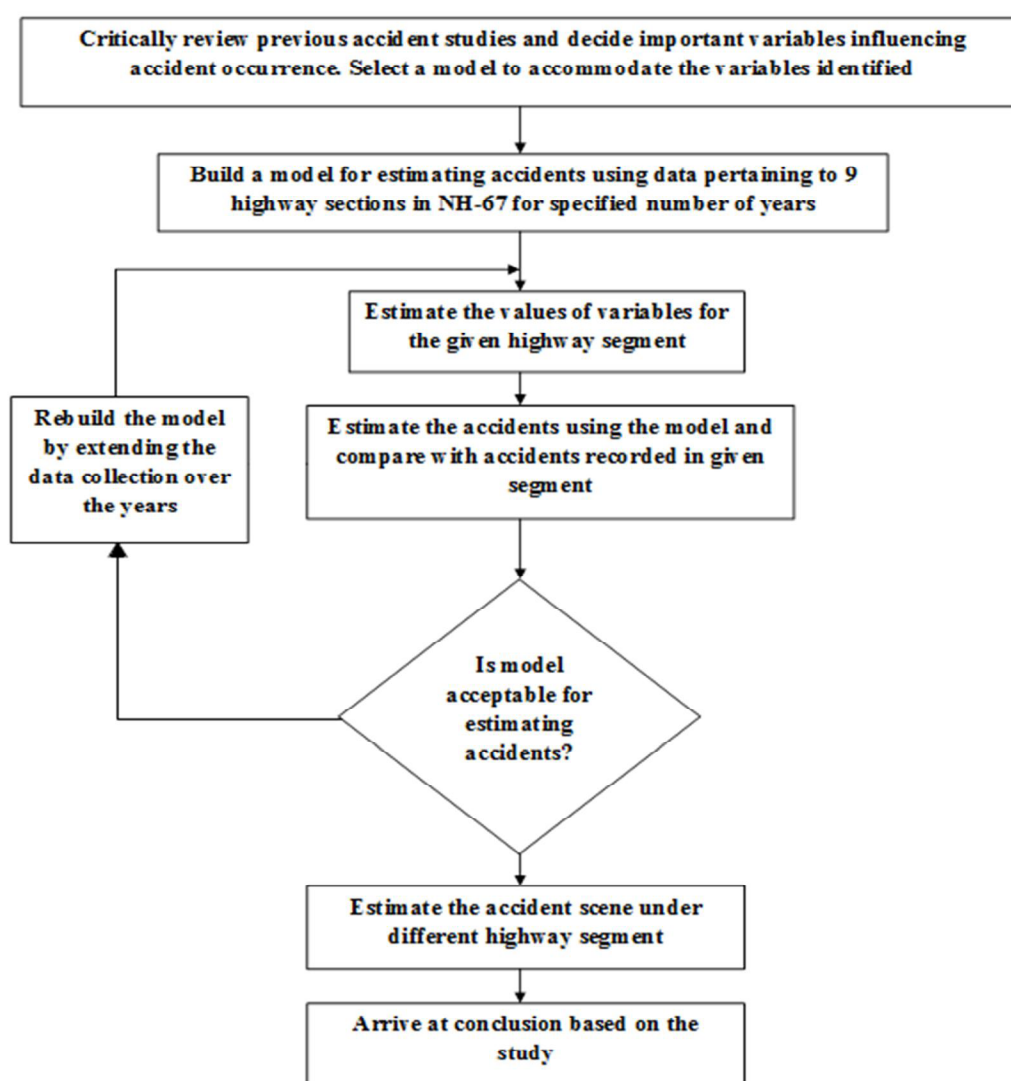


Figure 4.1 Basic Frame work of the Study