Traffic volume is a very important input parameter for almost all area in transportation engineering such as signalization design, pavement and geometric design of highways, transportation planning, maintenance times, emergency planning, etc. It is accepted that the traffic volume is increasing exponentially. Therefore a simple calculation is made to predict a future time traffic volume. However, there are many parameters which are affecting the traffic volume. Climate conditions are a few of them all. However, the effect of the specific climate condition to the traffic volumes and how effective these climate condition on traffic volumes are should be determined to predict the future traffic volume more accurately. Predicting the future traffic volume more accurately would benefit a better design. After building a highway, accurately predicted traffic volumes would allow better maintenance and rehabilitation planning, also. Therefore, climate and traffic data from Long Term Pavement Performance Program are obtained. The relationship between these data is established using data mining program, Waikato Environment for Knowledge Analysis (WEKA). The highest correlation coefficient (78.41%) have been obtained using the simple decision tree classifier. In addition to that, unexpected results like the humidity value have been obtained. As a result, data mining for establishing new relations between present data of the climate and traffic have been worked. Predicting of Traffic Loads by the Help of Climate Data Using Data Mining. Available from: https://www.researchgate.net/publication/321490253_Predicting_of_Traffic_Loads_by_the_Help_of_Climate_Data_Using_Data_Mining [accessed Dec 19 2017].