This paper proposes a methodology to rank dangerous road locations. The model is innovative in two respects. Firstly, it makes use of relevant information per accident location, including the total number of accidents, the number of fatalities, as well as the number of light and severe injuries. Secondly, the model includes a cost function to rank the sites with respect to their total expected cost to the society. Bayesian estimation for the model via a MCMC approach is proposed.