Md. Mohibul Haque 2012: Determining Speed Limits on Rural Two-lane Highways in Bangladesh. Master of Engineering (Civil Engineering), Major Field: Civil Engineering, Department of Civil Engineering. Thesis Advisor: Assistant Professor Varameth Vichiensan, Ph.D. 164 pages.

Speed management is a central element of any road safety strategy to achieve appropriate speeds on all parts of the road network. The primary method of managing travel speed is by imposing speed limits. Various methods have been proposed to establish speed limits. These methods vary from arbitrary judgment and legislative statute to prevailing speed to more or less engineering analysis. Presently integrated approach is used for setting speed limit in which the interests and needs of all the stockholders are considered. But the speed-limits choice set is naturally discrete. Thus in this thesis a multinomial logit (MNL) discrete choice model for selecting speed limit is presented for rural two-lane highways in which roadside characteristics considered as attributes. The effect of the other factors such as vehicle, road user, weather condition and crash probability on speed limits was out of scope of this study.

The model was developed using as a case study 30 km of two different rural national highways in Bangladesh. The choice on speed limits of ten traffic experts was collected for each 200 m segment for estimation of the MNL. The attributes were collected to describe the built-up characteristics of the different segments of the road and its surrounding environment. External data set of another 10 km of same roads was selected to verify the model validation. The model was adjusted well to the data and an external data set was shown consistent with the expert judgment.

Attributes of the roadside characteristics those have lateral constraints with higher significance indicate the choice of lower speed limits. From this study it was concluded that it would not be possible to attain maximum speed limit (80 km/hr) at the most parts of the roads.

_____ _____ ___ / ___ / ___

Student's signature Thesis Advisor's signature