

A modal shift approach to reduce CO2 emissions in the Dhaka-Chattogram freight corridor of Bangladesh

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Abstract: Dhaka-Chattogram highway is the prime freight transport corridor of Bangladesh that is carrying the maximum cargo of the country and also the all-out portion of international merchandised goods. Two other modes rail and waterways are available but overutilized and underutilized respectively. This research applied a quantitative method to calculate the number of trucks and covered vans are moving in the corridor that tagged to international shipping and their negative impacts on the environment including CO2 emissions. In addition, a benchmark study is conducted with other freight modes rail and waterways to develop a modal shifting plan for the Dhaka-Chattogram freight corridor. Freight movement in road mode is a causal factor to affect the passenger transportation system that occurred frequent road accidents and congestion. Inland waterways play a big role in transporting bulk cargo but it is less than 1% in container intermodal transportation and the share of rail intermodal is not increasing due to the single track between Dhaka and Chattogram. Conventional trucks and covered vans are liable for producing excessive CO2 and less km-tonne because of the short size of vehicles and old engines. Ominously, the banking sector is not in a position to change old vehicles and replace them with modern vehicles or electric-charged fleets. The practical impact of the research is to develop policies to protect the Dhaka-Chattogram freight transport corridor and make an opportunity to use all modes equally and start synchromodal and intermodal systems by shipper/consignee choices in considering environmental factors in freight transport modes. At least half of the tonnage is to be diverted from road mode to rail and waterways in bringing rhythm to the Dhaka-Chattogram freight corridor. Overall, this paper aims to find out the possible approaches to reduce CO2 emissions in the Dhaka-Chattogram freight corridor of Bangladesh and explored whether modal shift is an appropriate approach to create a good environment in the corridor and facilitate modern freight transportation systems in Bangladesh.

Keywords: Freight transport corridor, International merchandised goods, Road accidents and congestion, Synchromodal and intermodal, CO2 emissions.