

An Abstract of the
Enquiry into the Economics & Statistics of
Road Development.

At the instance of the War Transport ^{Department} ~~Development~~ of the Government of India, the Indian Statistical Institute in 1945, conducted a detailed traffic survey at five selected places in Bihar and at two in Bengal, ^{with a staff of 51} covering the area bounded off in the north by Nepal, in the south by the Grand Tunk Road, in the east by the north-south line following the river Hooghly and in the west by the western boundary of the province of Bihar. An economic survey was also carried on ~~with a staff of 51~~, at the same time near about the above seven centres - covering altogether 345 square miles comprising 52 markets and 586 villages.

At each centre, the investigator stopped all vehicles passing the observation post in either direction and noted the followings: exact time of enumeration, type of vehicle, total load, and total proportion occupied by commodities transported, type of commodity, names of villages of origin and destination, distance so far travelled ^{and the distance} yet to travel.

The whole survey took about 13 weeks, in which time about 1.75 lakhs of different vehicles were enumerated and details about them recorded. The basic tables for analysis were done through the Hollerith system.

It has been found that some centres have rather high proportion of villages having no roads, while in others such proportion is quite low. Transformation brought about by seasonal vagaries on the accessibility of roads is quite marked. In two centres about 15% of the villages only are found to have roads open to them in the wet ~~or~~ season. About 50% of the unmetalled roads usually become ineffective in the five Bihar centres. The general idea that areas with populous villages are likely to be more endowed with road facilities is not always substantiated by the informations collected. Generally exports range from one to two thousand maunds whereas imports are in the neighbourhood of 900 maunds per square mile. It has been seen that high trade figures are not always associated with good road facilities - villages

having cart-tracks only, or no roads at all have been found to trade to quite a good extent. It however appears that in the rural areas, the development of roads has been more influenced by volume of exports alone than by volume of total trade.// Considerable disparity exists between the centres in regard to the number of different types of vehicles possessed - the number of carts per village, for instance varying between 2 and 57. The variation of maund-miles per village, however, is not so wide - it being between 1000 and 5000 annually at the agricultural centres. The variation of the average distance^{Centres} from centre to centre are still smaller - the average distance covered by a loaded cart in a year is estimated to be of the order of 100 to 200 miles. It has been found that proportions of villages trading in small amounts is high, in centres which have few or no carts at all; again these are also generally the centres where the figures of maund-miles per cart or average distance covered by a cart-load are high.

It is noticed that the division of total load between passengers and goods is roughly in the ratio of 1 to 4. Even in agricultural areas, agricultural products do not always constitute the major bulk of trade. Compared to motor-vehicles, carts have less opportunity of securing loads both-ways. Moreover unlike motor-vehicles, carts carrying goods are less likely to return empty than those carrying passengers. At many centres, it is observed that a very large proportion of vehicles loaded with goods return empty from the places where the traffic usually converges to their principal catchment areas.

The variation in the volume of traffic by week-days in respect of the number of carts and number of vehicles (pack animal excluding) is found to be considerable - in one centre it ranges between 50% and 150% of the average over all week-days. Hourly variation of the volume of traffic - i.e. the number of vehicles (excluding pack animals) is found to be much wide. In the centre with the least variation it is between 65% and 168% of the over-all hourly average; and in the centre with the highest variation it is between 10% and 232%.