302.10.

No PL-30 (49)/79 *Dated the 25th July, 1984*

To

The Chief Engineers of all States/Union Territories dealing with roads

Subject : Design of intersections

The Ministry have been attaching great importance to the removal of deficiencies of road junctions specially on National Highways in order to ensure safety against road accidents. From time to time, Ministry have also been receiving proposals for improvement of intersections from the State PWDs. However, it is observed that in most of the cases, the data submitted with the proposal are not adequate, even though the details of data required to be furnished have been circulated to all State PWD's vide this Ministry's letter of even number dated the 28th Sept. 1981. As a consequence it is not often possible to appreciate the problem in full for evolving a proper proposal for the junction-improvement.

2. In order that the proposals can be properly appreciated, following essential data should invariably accompany all design proposals sent to the Ministry henceforth.

(i) **An index/location Plan** in the scale of about 1 : 10,000 to 1 : 20,000 showing the junction under consideration and the road/rail/river network in the area.

(ii) **A base plan of the junction site** in the scale of 1 : 500. It is important to maintain this scale which is being adopted as a measure of uniformity and also to ensure that sufficient length of roads and fairly detailed account of existing features are shown in a drawing sheet of manageable size. The existing roads and salient features like road land boundary, location of structures, etc. should be shown for a length of about 200 m for each road merging at the junction. If the terrain is not plain and/or there is too much of variation of ground level at the site contours at 0.5 metre interval should also be marked on the base plan.

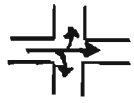
(iii) **The peak hour design traffic data** : This is MOST IMPORTANT. Without this data, the problem virtually remains undefined. The design hour peak traffic data should invariably give its compositional and the directional break-up. A sample proforma which is to be used for the purpose of reporting the compositional and directional break-up and computing the volume in PCUs for one leg of a four legged intersection is enclosed in Annexure I. Separate report sheets will be needed for the other legs of the intersection. The volume of the above traffic in terms of number of vehicles and in PCUs should then be reflected in the diagrams shown in the Annexure II & III. If the number of legs in the intersection are three or more than four, Annexure I, II & III should be suitably modified.

(iv) Other relevant details such as the feasibility of providing proper lighting system at the intersection, the potentiality of the area in the vicinity of intersection being developed as a trade centre or transhipment points for goods, passenger traffic etc. shall be given.

3. It is requested that necessary action may be taken on the above lines, while sending proposals for improvement of intersections to the Ministry.

ANNEXURE I

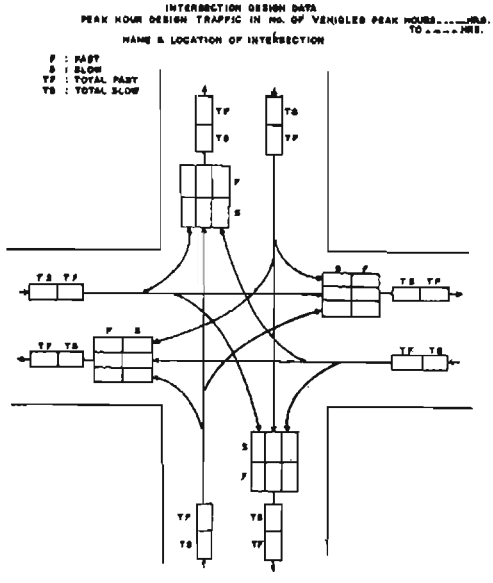
INTERSECTION DESIGN DATA
PEAK HOUR DESIGN TRAFFIC PEAK HOUR _____ **HRS. TO** _____ **HRS.**
NAME & LOCATION OF INTERSECTION _____



		FROM	LEG A *								
		ENTERING	LEG B*			LEG C*			LEG D*		REMARKS
		Type	Nos	PCU Equivalency	PCU	Nos	PCU Equivalency	PCU	Nos	PCU Equivalency	PCU	
			1	2	3=1×2	1	2	3	1	2	3	
FAST	1.	Passenger cars, tempos, auto rikshas, tractors		1.00								
	2.	Motor cycles, Scooters		0.50								
	3.	Trucks, Buses, Tractor Trailer Units		3.00								
		TOTAL FAST										
SLOW	4.	Cycles		0.50								
	5.	Cycle Rikshas		1.50								
	6.	Horse Drawn		4.00								
	7.	Bullock-carts		8.00								
		TOTAL SLOW										
		PEDESTRIAN NOS.										

* Specify the name of an important place or land on this LEG such as Market LEG, Temple LEG, Mathura LEG etc.

ANNEXURE II



ANNEXURE III