Government of India
Ministry of Road Transport & Highways

Transport Bhawan,1, Parliament Street,
New Dehli-110001.

RW/NH/29011/2/2015-P&M (RSCE)

20th April, 2017

OFFICE MEMORANDUM

Subject: Essential approach and principles to be followed for Road Safety Engineering works – regarding.

Approach and essential principles to be followed in identifying road safety engineering improvements for enhancing road safety, preparation of detailed layouts for these improvements, implementation and feedback monitoring have been discussed with officers of Ministry, officers of NHAI, officers of State PWDs and the consultants in this area during various discussions, training workshops etc. Some of these principles are covered in various guidelines issued by Road Safety Cell (Engineering). For ease of reference and compliance, these aspects have been compiled into a single document and enclosed.

All the concerned should follow the above approach and essential principles in respect of Road Safety Engineering works scrupulously to achieve the intended reduction in the accidents.

Enclosure: As above.

Yours faithfully,

Neerav 20/04/2017

Neerav Punjabi

Assistant Executive Engineer (RSCE)

For Director General (Road Development) & SS

To,

Chief Engineer-P-1/P-2/P-3/P-4/P-5/P-6/P-7/NER/PL/MON-I/EAP/NHDP-IV/EAP /NHDP-IV/S&R(R)/S&R(B), MoRTH/ Chief General Manager (Road Safety), NHAI Chairman, NHAI/ Managing Director, NHIDCL/ Director General Border Roads/ Director, IAHE/ Secretary General, IRC

All Secretaries of PWDs, Chief Engineers of NH,
Regional Officers of MORTH, NHAI, DGBR, NHIDCL

Copy for information to: PS to Hon'ble Minister (RTH & S), PS to Hon'ble Minister of State for RTH & S [PR], PS to Hon'ble Minister of State for RTH & S [MM], PS to Secretary (RT&H), Sr. PPS to DG (RD) & SS, PPS to ADG-in charge.

Essential approach and principles to be followed for Road Safety Engineering works on National Highways		
Sl No	**Item**	**Approach & principles to be followed**
1	***List of works for Road Safety annual Plan for National Highways***	Concerned field engineers should visit the Critical accident prone locations where there is history of repeated accidents on NHs in their jurisdiction and should identify the broad additional features like improvement of junctions, improvement of geometry, provision of pedestrian facilities, provision of service roads, widening of any bottle neck portions etc., required for reducing accidents. Availability of land for accommodating these additional features and any ongoing / upcoming projects at the identified sites should also be assessed . Based on these details, RO MORTH and CE(NH) should discuss and finalize the list of 2 to 4 Road Safety Engineering works for inclusion in Road Safety annual Plan as per the check list given by the Ministry.
2	***Preparation of Road safety annual plan proposals***	Proposals are to be prepared accommodating the remedial measures to the extent feasible in the available land or in extreme cases in the proposed land either through in-house efforts or through competent consultants or a combination of both. After preparing the draft proposal together with cost estimate, the same is to be discussed with Road Safety Engineering Cell of the Ministry and is to be fine tuned to sanctionable form with complete details of geometry, road signs, markings etc., before submitting the same to Road Safety Engineering Cell (CE Road Safety) of MORTH.

Sl No	Item	Approach & principles to be followed
3	***Implementation of Road Safety Engineering Works***	Road Safety Engineering works are to be implemented truly transferring the approved layouts to the ground, adopting the correct sizes and dimensions for signs, markings and other road furniture from the relevant IRC codes namely IRC-67 :2012 and IRC-35:2015 (or their latest revisions) as per the conditions of technical note, as the markings and signs on layouts are indicative. The consultants who prepared the design should be entrusted with the responsibility of exactly setting out the layout on the ground using total station and other equipment. In case of non-feasibility of this option equivalent arrangement should be made. These works are to be executed in time bound manner through various preparatory activities like pre-discussions with prospective consultants/ bidders and pre-bid meetings etc. Guidance from Road Safety Engineering Cell of Ministry can be taken whenever required in these activities either telephonically or through video conferencing or through site inspections cum discussion meetings.
4	***Installation of Modified thrie beam type crash barriers in hilly terrain on NHs***	Accident prone stretches where crash barrier installation is required & feasible (with respect to availability of space and other site conditions), are to be identified and got approved by Ministry. Estimates are to be prepared (model rate analysis already communicated to all concerned) and got sanctioned by Ministry for the approved stretches. In case of non-feasibility of execution at some stretches the same can be deleted or substituted though formal approval of RO MORTH. Prospective crash barrier manufacturers(who would also be the bidders for their installation in the case of installation in long lengths) are to be sensitized through pre-discussions about these crash barriers/ installation conditions as approved in the report of the Ministry . These works are to be executed in time bound manner through various preparatory activities like pre-discussions with prospective bidders and pre-bid meetings etc. Guidance from Road Safety Engineering Cell of Ministry can be taken whenever required in these activities either telephonically or through video conferencing or through site inspections cum discussion meetings.

Sl No	Item	Approach & principles to be followed
5	***Detailed Road Safety audits on existing NH stretches***	Stretches where development works like two laning or four laning are neither in progress nor in pipeline are to be identified and got approved in principle for taking up detailed Road Safety audits. After in-principle approval, tender based estimates (following Ministry's standard RFP for these works) are to be got sanctioned by Ministry. Consultancy services are to be procured and implemented in time bound manner as per standard bid document circulated by Ministry through pre-discussions with prospective competent consultants, pre-bid meetings and collaborative working between consultants and PWD field engineers etc.
6	***Implementation of the agreed recommendations of the detailed Road Safety Audits***	After the Road Safety Audit Report is finalized as per the standard document, Competent consultants are to be deployed with the approval of the Ministry for preparing comprehensive integrated proposal for the stretch as per the agreed recommendations of the audit. Such integrated proposal should be implemented as specified for Road Safety Engineering works after the proposal is sanctioned by Ministry like any NH(O) proposal
7	***Road Safety Operational Audits and implementation of short term remedial measures***	Stretches where development works like two laning or four laning are in pipeline but are taking time of the order of 18 months for commencement of actual execution are to be identified and got approved in principle for taking up operational Road Safety audits. After in-principle approval, tender based estimates are to be got sanctioned and operational audit reports together with proposals of short term remedial measures as specified in the standard TOR circulated by the Ministry are to be submitted and implemented in time bound manner through pre-discussions with prospective competent consultants, pre-bid meetings and collaborative working between consultants and PWD field engineers etc.

Sl No	Item	Approach & principles to be followed
8	***Establishing Road Safety Engineering Cells in the NH directorates of States/UTs***	Road Safety Engineering Cells broadly comprising ONE EE + ONE AE or ONE AE + ONE JE (with required support staff) are to be established in the NH directorate under the direct control of CE (NH). They should be imparted training in Road Safety Engineering through National / State level workshops, training courses in the country & abroad. They would be contributing by pursuing timely submission of the Road Safety engineering proposals as per guidelines, pursuing approvals for the same, providing guidance in procurement & implementation of these works through periodic inspections and discussions with concerned field engineers. They will also be handling the crash data / feed back related functions, organization of workshops / trainings in the area of Road Safety Engineering, organization of Expert committee meetings and pursuing the submission of Road Safety engineering proposals on state roads under CRF etc. CE (NH) should use his authority in getting the Road safety actions and activities of Road Safety Engineering Cell of the state / UT swiftly implemented.
9	***Constitution of Expert committee for Road Safety Engineering works on state roads under CRF***	Committee is to be constituted as per guidelines
10	***Constitution of District level monitoring committee for Road Safety Engineering works on state roads under CRF***	Committee is to be constituted as per guidelines

Sl No	Item	Approach & principles to be followed
11	***Submission of Road Safety Engineering works proposals on state roads under CRF***	Proposals are to be prepared and submitted to Road Safety Engineering Cell (CE Road Safety) of the Ministry through an expert committee as per guidelines issued in this regard.
12	***Rectification of identified black spots on NHs***	As soon as the black spots on NHs are identified and notified with unique ID numbers by Ministry as per the approved protocol & definition, immediate cautionary measures are to be installed as per the guidelines of the Ministry already issued, meeting the expenditure from the contingencies of any ongoing NH (O) work. A combined approximate estimate for permanent rectification of all the identified black spots(including short term measures for immediate relief where long term measures are not appropriate) is to be forwarded through RO MORTH for approval of Ministry. After this approval, detailed proposal with estimate is to be prepared for rectification of the black spots on the lines specified for Road Safety engineering works and should be got technically sanctioned by RO MORTH under delegated powers. These works are to be implemented similar to Road Safety engineering works explained above.
13	***Road Safety Engineering workshops***	Road Safety Engineering workshops should be organized in consultation with Road Safety Cell Engineering of the Ministry meeting the expenditure from the QC sub-head of any of the sanctioned NH(O) works as per guidelines already issued.
14	***Higher level monitoring of Road Safety Engineering actions in theState/UT***	**Actions in respect of Road Safety Engineering are to be reviewed and followed up at the level of Concerned Principal Secretary along with CE(NH) & CE (State Roads) twice a month on Pre-fixed days (say 2nd and 4th Tuesdays etc)**

Sl No	Item	Approach & principles to be followed
15	***Investigation based actions with quality is essential for achieving road safety through Engineering.***	Survey & investigation based actions with attention to detailing in the design stage as well as in execution stage is a must for achieving safety through Road Safety Engineering. Routine handling of more works or proposals does not reduce accidents and in some cases it may lead to increase in accidents.
16	***Feed back monitoring and documentation***	Efficacy of the Road Safety Engineering measures is ensured only when road accidents / fatalities related to road and road environment are eliminated as reflected in feed back on accidents/ fatalities at the improved location for at least 3 years. Therefore, regular collection of the accident / fatality data at the improved locations from police authorities and forwarding the same to Road Safety Cell Engineering MORTH on quarterly basis is essential. Documentation of the traffic flow and road environment before improvement and after improvement using drones or any other alternate method is essential to review the improvement in traffic movements and its adequacy. This is also essential for future learning and capacity building activities and as such should be captured and furnished to Road Safety Cell Engineering MORTH. All the **above mentioned guidelines are circulated to all states / UTs and are also available on MORTH website namely www.morth.nic.in under "Road Safety Engineering Cell" (can be easily identified with its logo).**