

NO. PL-17 (4)/79

Dated the 3rd November, 1979

Sub : Constitution of Planning and Implementation Groups for the Research and Development Schemes on road topics included in the Central Road Sector Programme

In the year 1976-77, the Ministry launched an R&D Programme consisting of priority schemes on road and bridge topics. For implementing these schemes in a systematic manner, the Ministry has a three-tier system comprising an Advisory Panel, a Steering Group and Planning & Implementation Groups performing the following functions :

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| Advisory Panel | — To advise on all matters of Research and Development including selection of projects. |
| Steering Group | — A compact group drawn from the Advisory Panel to expedite and push forward the projects and to supervise and direct the Planning and Implementation groups. |
| Planning & Implementation Groups | — These will work out details of the research projects and estimates, recommend the agencies to execute the work, lay down the job requirement of each agency and afford general technical guidance during implementation of the schemes at intervals. |

2. For each project in the first package of R&D schemes taken up in the year 1976-77, a P&I Group for preparing details of research etc. was constituted with the approval of the Steering Group. You are a member of the P&I Groups for the projects.

3. In the meantime, on the recommendations of HRB, the R&D Advisory Panel has approved a second package of 21 priority schemes for being taken up in Central Roads Sector during the Plan period 1978-83. Of these 18 are on road topics, vide list at Appendix I. In view of the large number of road research schemes (10 of first package and 18 of second package) to be handled currently, it has been decided that the existing P&I Groups, suitably enlarged as necessary, may look after the new schemes falling within their area of expertise. The enlarged composition of the P&I Groups of the first package schemes as also the names of the second schemes which are looked after in addition as approved by the Steering Group are shown in Appendix II. For 3 of the new schemes (i.e. R-11, R-13, and R-14) however, new P&I Group will be constituted as these schemes could not be tied with any of the existing P&I Groups. As may be seen, your name has been included in the P&I Groups of schemes.

4. Members of P&I Groups who are serving in Government organisations, their TA/DA shall be met by the organisations where they are employed. In case of members from teaching institutions and other similar organisations where the employers concerned have expressed their inability to meet the TA/DA expenses involved in participation of their representatives in the meetings of the aforesaid groups, the expenditure on TA/DA of such persons according to their entitlements shall be met by the Central Government out of the provision made for the research and development scheme.

5. It is hoped that you will continue to extend your valuable cooperation and your association with the P&I Groups which presently stand enlarged in composition and scope of work. A line in reply confirming this will be highly appreciated, and this may be sent to us as early as possible, preferably within 15 days of issue of this letter.

Encl : As above

copy for information and necessary action to :

1. Secretary, PWD Rajasthan, Jaipur
2. Chief Engineer, PWD (B&C) Sachivalaya, Gandhinagar, Gujarat State
3. Secretary PWD, Sachivalaya, Gandhinagar, Gujarat State
4. Secretary, Andhra Pradesh PWD, Hyderabad
5. Chief Engineer (H&RW) Highway Department, Madras-600005
6. Secretary, Tamilnadu Transport Deptt., Madras-600009
7. Secretary, Maharashtra PWD, Sachivalaya, Bombay
8. Secretary, Bihar PWD, Patna
9. Chief Engineer, Uttar Pradesh PWD, Lucknow
10. Secretary, Uttar Pradesh PWD, Lucknow
11. Director, Central Road Research Institute, Mathura Road, New Delhi
12. Director, Transport Research, Jamnagar House, New Delhi-110011
13. Secretary, West Bengal PWD, Calcutta
14. Secretary, Kerala PWD, Trivandrum
15. Director, IIT Kharagpur, West Bengal
16. Vice-Chancellor, University of Roorkee, Uttar Pradesh
17. Secretary, Haryana PWD, Chandigarh
18. Secretary, Himachal Pradesh PWD, Simla
19. Secretary, Tamilnadu PWD, Madras
20. Director General Border Roads, Kashmir House, New Delhi
21. Director, IIT Hauz Khas, New Delhi

APPENDIX I

NEW R&D SCHEME APPROVED BY THE R&D ADVISORY PANEL FOR BEING TAKEN UP DURING 1978-83.

Project Code No.	Title of project	Estd. cost (Rs in lacs)	Estd. duration (Years)	The ongoing project, the P&I Group of which will look after the scheme
1	2	3	4	5
HIGHWAY PLANNING & ECONOMIC STUDIES				
R-11	Transportation modelling on regional basis for the truck route system.	15	3	New Group
R-12	Study of the utilisation of bypasses on National Highways	15	3	R-3
R-13	Effect on capacity of National Highways with segregation of slow moving traffic.	5	2	Same new Group as for R-11.
R-14	Increase in capacity of roads in Urban area by provision of adequate lighting	5	2	-do-
R-15	Case studies on ribbon development along the trunk route system.	15	3	R-3
R-16	Maintenance cost studies for pavement under different conditions in order to fix rational norms for maintenance operation.	20	5	R-8
R-3 Phase II	To develop data on growth of highway traffic in different regions for different categories of roads-Phase II.	30	3	This is in continuation of the sanctioned phase I studies occurring as R-3 under first package.
R-17	Case studies to determine extent and scale of road-side amenities like truck parks, lay-byes etc.	10	3	R-3
R-18	HIGHWAY DESIGN STUDIES :			
	Geometric design studies-studies on horizontal friction factors, perception and brake reaction time	20	3	R-6

	of drivers, transverse placement of vehicles and sight distance requirements.			
R-19	Highway Design study, part B Road life studies	80	5	R-8
R-20	Experimental studies on contribution made by shoulders to the structural capacity and performance of flexible pavements.	20	5	R-5
R-21	Studies about high embankment construction in stages	10	5	R-9
R-22	Pre-compression of compressible strata by use of sand drains	10	5	R-9

HIGHWAY MATERIALS & CONSTRUCTION

R-23	Determination of 'E' of pavement layers and sub-grade by vibratory testing in the field.	10	3	R-6
R-24	Determination of 'E' and fatigue characteristics of asphaltic mixes, lean concrete, lime-fly ash aggregate and lime-gravel mixes in laboratory	15	3	R-6

C.R.F. WORKS

R-25	Determination of compaction curves for soils with compactions equipment manufactured in the country			R-9
R-26	Study of the relative effects of single and tandem axles loads on pavement design			R-6
R-27	To develop comprehensive data on the level of surface finish and quality control obtained for different layers under different conditions.			R-8

APPENDIX II

Composition of the Planning & Implementation Group for the Research Schemes approved by the R&D Advisory Panel (Roads Schemes)

Scheme Number	First package of R&D Schemes		Second package of R&D scheme which will have the same R&I Group as in Col.3
	Title of scheme	Proposed revised composition of the R & I Group	
1	2	3	4
R-1	Survey & evaluation of locally available materials.	<ol style="list-style-type: none"> 1. Sh. N. Sivaguru, CE (Stds/R) Min. of S&T... (Convenor) 2. Sh. U.T. Khemani, CE, M.P. 3. Sh. Patnaik, CE (NH) Orissa 4. C.E. Rajasthan 5. Sh. P.J. Mehta, CE Gujarat (Alternate-Director GERI) 6. CE, NH Andhra Pradesh 7. Prof. G.M. Andavan, Director, HRS Madras 8. Rep. DGBR (Sh. Balbir Singh) 9. Sh. R.L. Nanda, Scientist, CRRI. 10. Sh. B.K. Duara, G.S.I. 11. Col. Avtar Singh 	
R-2	Study of spectrum of axle loads on roads in different regions.	<ol style="list-style-type: none"> 1. Sh. R.P. Sikka, CE, MOT (Convenor) 2. Sh. P.M. Nadgauda, CE, Maharashtra. 3. Sh. P. Bhagat, Addl. CE (NH), Bihar 4. Sh. S.D. Vidyarthi, Director, U.P. PWD, Research Institute 5. Dr. R.K. Ghosh, CRRI 	
R-3	To develop data on the growth of highway traffic in different region for different categories of roads.	<ol style="list-style-type: none"> 1. Sh. R.P. Sikka, CE, MOT (Convenor) 2. Sh. P.M. Nadgauda, CE Maharashtra 3. Prof. M.S.V. Rao, School of Planning & Architecture 4. Dr. A.C. Sarna, CRRI 5. Dr. V.V.P. Rao, D.T.R. 6. Sh. A.K. Das Gupta, E-in-C, WB 7. Director, HRS Madras 8. Director, UPRI, Lucknow 9. Director, GERI, Baroda 10. CE, Haryana 	<p>R-12: study of the utilisation on NHs.</p> <p>R-15: case studies of ribbon development along with the trunk route system.</p> <p>R-17: Case studies to determine extent and scale of roadside amenities like truck parks, laybys etc.</p>

R-4	Highway Design Study a Road user cost study	No formal P&I Group	R-3 Phase II
R-5	Studies on the critical moisture content for the evaluation of structural strength for pavement design under different conditions.	<ol style="list-style-type: none"> 1. Sh. N. Sivaguru, CE (Stds/R) MOT (Convenor) 2. Sh. B.K. Roy, SE (Stds/R) MOT. 3. Dr. Bansi Lal, CRRI 4. Prof. G.M. Andavan, Director HRS, Madras 5. CE, West Bengal 6. CE (NH) Kerala 7. Sh. R.T. Atre, CE, Maharashtra 8. Dr. Alam Singh, University of Jodhpur 9. Dr. R.C. Sonpal, L.D. College, Ahmedabad 10. Dr. B.V. Ranganathan, I.I.S., Bangalore 	R-20 : Experimental studies on contribution made by shoulders to the structural capacity & performance of flexible pavements.
R-6	Development of methods such as Benkelman Beam Deflection method for evaluation of structural capacity of existing flexible pavement.	<ol style="list-style-type: none"> 1. Sh. N. Sivaguru, CE (Stds/R) (Convenor) 2. Sh. A.K. Bhattacharya, SE (MOT) 3. Sh. P. Bhagat, Addl. CE, Bihar 4. Dr. M.P. Dhir, CRRI 5. Prof. G.M. Andavan, Director, HRS, Madras. 6. Dr. C.E.G. Justo, Bangalore 7. Sh. S.D. Vidyarthi, Director, UP PWD, Research Institute 8. Sh. S.R. Kundu, D.T.R. 9. Dr. S. Koteswar Rao, I.I.T. Kharagpur 10. Dr. S.K. Khanna, University of Roorkee 11. Prof. Ranganathan. 12. C.E. Rajasthan. 13. Director, G.I.R.I. Baroda 14. Director, CRRI. 	<p>R-12 Geometric design studies on horizontal friction factors, perception and brake reaction time of drivers, transverse placements of vehicles and sight distance requirements.</p> <p>R-23 : Determination of 'E' of pavement layers and sub-grade by vibratory testing in the field.</p> <p>R-24 : Determination of 'E' & fatigue characteristics of asphaltic mixes, lean concrete, lime fly-ash aggregate & lime-gravel mixes in laboratory.</p> <p>R-26 : Study of the relative effect of single and tandem axle loads on pavements designs.</p>
R-7	Study of the efficacy of various measures including drains for lowering/cutting off water table.	<ol style="list-style-type: none"> 1. Sh. N. Sivaguru, CE (Stds/R) MOT (Convenor) 2. Sh. B.K. Roy, SE (Stds/R) MOT 3. Sh. T.K. Natarajan, CRRI 4. CE (NH), Punjab 5. Dr. S.K. Khanna, University of Roorkee 6. CE, West Bengal 	
R-8	Criteria for the choice of the type of bituminous surface courses for flexible pavements.	<ol style="list-style-type: none"> 1. Sh. N. Sivaguru, CE (Stds/R), MOT (Convenor) 2. Sh. A.K. Bhattacharya, SE (Stds/R) MOT 3. Prof. C.G. Swaminathan, Director, CRRI 4. Sh. P.R. Bendra, Bharat Refineries 5. Sh. I.C. Gupta, E-in-C, Haryana 6. Sh. E.C. Chandrasekharan, CE (NH), Tamil Nadu (Alternate-Director, HRS) 7. Sh. R.T. Atre, CE, Maharashtra 8. Brig. S.S. Ahluwalia, DGBR 9. Sh. N.H. Keshwani, CE, MOT. 10. Sh. M.B. Jayawant, CE, MOT 11. Sh. V.K. Arora, SE, MOT 12. Dr. M.P. Dhir, CRRI 13. CE (NH) UP (Alternate Director UPRI) 14. Dr. R.K. Ghosh, CRRI 	<p>R-19 : Highway Design study part B-Road Life Studies.</p> <p>R-16 : Maintenance & coast studies for pavement under different conditions in order to fix rational</p>

norms for maintenance operation.

R-27 : To develop comprehensive data on the level of surface finish & quality control obtained for different layers under different condition

R-21 : Studies about high embankment construction in stages.

R-22 : Pre-compression of compressible strata by use of sand drains.

R-25 : Determination of compaction curves for soils with compaction equipment manufactured in the country.

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| R-9 | Construction of Roads in Expansive clays. | <ol style="list-style-type: none"> 1. Sh. N. Sivaguru CE (Stds/R) MOT (Convenor) 2. CE, Andhra Pradesh 3. Sh. R.T. Atre, CE, Maharashtra 4. Sh. T.K. Natarajan CRRI. 5. CE (NH) M.P. 6. Prof. B.V. Ranganathan, I.I.S. Bangalore. 7. Dr. G.V. Rao, IIT, Delhi 8. Sh. A.K. Bhattacharya, SE (Stds/R) MOT 9. Dr. Bhandari 10. Director, GERI, Baroda. 11. Sh. N. Sen, CE (Retd). MOT |
| R-10 | Evolving of Economic Maintenance methods & to fix stages at which upgrading is needed for earth roads in different soil zones. | <ol style="list-style-type: none"> 1. Sh. N. Sivaguru, CE (Stds/R) (Convenor) 2. Sh. N.H. Keshwani, CE, MOT 3. CE (NH), Rajasthan. 4. Sh. L.C. Gupta, E-in-C, Haryana 5. CE (NH) Karnataka. 6. Sh. R.T. Atre, CE, Maharashtra 7. Dr. M.P. Dhir, CRRI. 8. Sh. S.L. Goel/Director, UPRI. 9. Sh. A.K. Bhattacharya, SE (Stds/R) MOT. |

New P & I Group

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| R-11 | Transportation modelling on regional basis for the trunk route system | <ol style="list-style-type: none"> 1. Sh. R.P. Sikka, CE, MOT (Convenor) 2. Prof. M.S.V. Rao, School of Planning & Architecture. 3. Dr. A.C. Sarna, CRRI. 4. Sh. L.R. Kadiyali, CRRI 5. Dr. N.S. Srinivasan, NATPAC 6. Dr. Raghvachari, Regional Engineering College, Warrangal. 7. Rep. Planning Commission. 8. Sh. S.M. Parulkar, Bombay Municipal Corporation. |
| R-13 | Effect on capacity of National Highways with segregation of slow moving traffic. | |
| R-14 | Increase in capacity of roads in urban areas by provision of adequate lighting. | |