BYPASSES IN TAMIL NADU

Bypasses play a major role in the diversion of through traffic and helps in protection of traffic conditionin major towns. Bypasses results in reduction of travel time and vehicle operating cost.

In order to facilitate the road users, 32 bypasses have been completed and opened for vehicular traffic. The construction works of bypasses are in progress at 11 places. Land acquisition for constructing bypasses in 38 locations are in progress. Detailed project Reports (DPR) is under preparation for 13 bypasses. In addition 6 bypasses are under scrutiny by the Government. Totally 100 bypasses have been taken up in the Corporations, Municipalities and Town Panchayats.

The details of byepasses are listed below:

Completed	-	32
Ongoing	-	11
LA Progress	-	38
DPR Work in progress	-	13
Under Consideration of the Government	-	6
Total	**100**	

FORMATION OF EDAPPADY TOWN BYPASS

To reduce the traffic congestion in Edappady town to form Bypass Road for a length of 8.80 km Rs 6.00 crores has been sanctioned for land acquisition under CRIDP scheme 2011-2012.

Bypass road starts at km 12/8 of Sankari – Mecheri road (via) Edappady (SH 220) on right side and ending at km 20/8 of Magudanchavadi – Komarapalayam road (via) Edappady (SH 221). It Cross the Moolapathi – Chinnappampatti road (via) Panikkanur at km 0/8, Edappady Poolampatti – Metur road (SH 220A) at km 2/6 and Edappady – Nedugulam – Koneripatti – Ananthampalayam road (via) Barrage III (SH 220B) at km 1/4. To form this bypass road land is acquired for 30.00m Right of way.

For the above bypass land acquisition is involved in the following six villages.

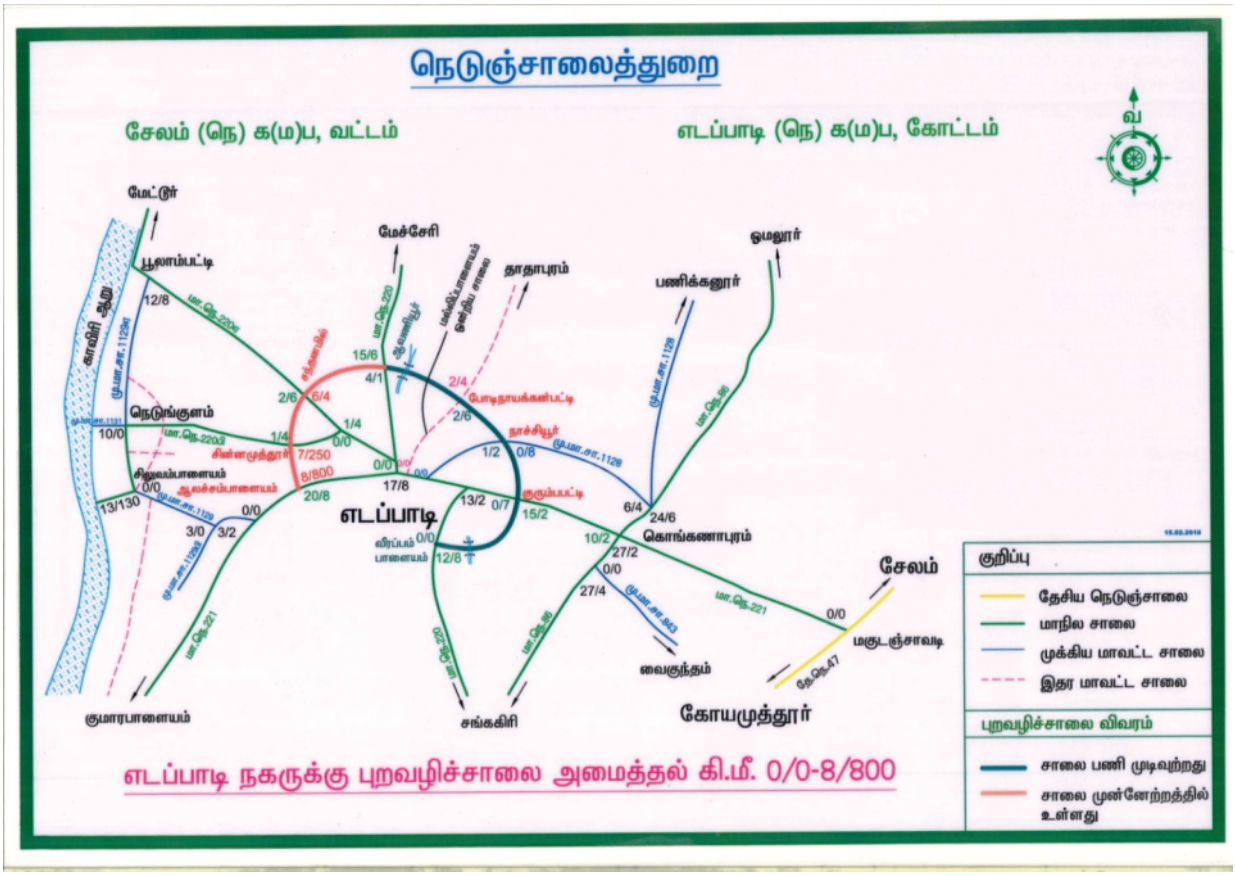
1.Chinnamanali	4.Kurmpappatti
2.Edappady	5.Vellirivelli
3.Avaniperur (East)	6.Avaniperur(West)

Among the above six villages except Avaniperur west village land acquisition processes has been completed and the work is in progress. For Avaniperur west revised land cost proposal is sent to Commissioner of land acquisition Chennai for approval.

For formation of Bypass road Rs. 38.90 crores has been sanctioned under CRIDP scheme vide G.O.MS.No: 28/ Highways and Minor ports (H.P.1) Dated: 25.02.2014.

For easy execution the total length of road is divided into three Parts. In the I part from Km 0/0-4/100 work has been completed. In the II part land acquisition work is in progress and III part Km 7/2 -8/8 work is in progress.

For considering the future traffic growth bypass road is formed as three lane carriage way having width of 10.5m.



மாண்புமிகு தமிழ்நாடு முதலமைச்சர் திரு. எடப்பாடி கே. பழனிச்சாமி அவர்கள் 18.02.2018 அன்று சேலம் மாவட்டம், எடப்பாடி நகரம் புறவழிச்சாலையை (பகுதி I) திறந்து வைத்தார்கள். இந்நிகழ்வில் மாண்புமிகு மக்கள் நல்வாழ்வு மற்றும் குடும்பநலத் துறை அமைச்சர் டாக்டர். சி. விஜயபாஸ்கர், நாடாளுமன்ற உறுப்பினர்கள் மற்றும் சேலம் மாவட்ட ஆட்சியர் திருமதி. ரோஹினி, ரா. பாஜிபாகரே. இ. ஆ. ப, ஆகியோர் கலந்து கொண்டனர்.

(Source: C & M Wing)

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WIDENING OF BRIDGE NEAR MIOT HOSPITAL

Widening of High level Bridge across Adyar River at Km.2/6 of Mount - Poonamalle – Avadi Road near Ramapuram

The above work of "widening of Adayar River bridge" has been Administratively sanctioned for Rs.15.46 Cr. under CTTS Scheme for the year 2015-2016 and technically sanctioned for Rs.17.00 Cr. The Existing Bridge has 9 spans of 15m each and the available bridge width is 19.60m, caters 4 lane traffic with centre median provision. But the approaches on either side of the bridge have been widened by C&M wing to 6 lane traffic due to increase in vehicular traffic intensity on this road. Hence, the bridge has been proposed to be widened to a six lane bridge to match with that of the approaches and hence it was proposed to widen the existing bridge for 11.50m on Right hand side. This would reduce the prevailing traffic congestion on either side of the bridge approach, also would regulate uniform traffic flow along the Mount - Poonamallee - Avadi road.

Earlier, there was no footpath for pedestrians on the existing bridge on RHS which lead to pedestrian road accidents. Hence, footpath is proposed on the widening of river bridge portion as well as on the approaches for a width of 2.0m.

Therefore, the overall bridge width will become 31.10m after completion of this widening work. The proposed bridge configuration is as detailed below.

Traffic lane width (LHS & RHS)	-	10.75m each
Foot path (LHS & RHS)	-	2.00m each
Cycle / Two wheeler lane(LHS & RHS)	-	2.20m each
Median	-	1.20m

As part of this project work, Service road is proposed to a length of 120m at MIOT Hospital side with Intermediate Lane width of 5.50m to cater the access for local general public and business establishment. The duration of project period is 18 months and entire work will be completed very shortly.

(Source: Metro Wing)

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REPUBLIC DAY CELEBRATION AT INTEGRATED CE'S OFFICE, GUINDY



TREE PLANTATION ON REPUBLIC DAY




REPUBLIC DAY CELEBRATION AT HRS, GUINDY

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BRAINTEASER

"Imagine that you have three boxes, one containing two black marbles, one containing two white marbles, and the third, one black marble and one white marble. The boxes were labeled for their contents - BB, WW, BW - but someone has switched the labels so that every box is now incorrectly labeled. You are allowed to take one marble at a time out of any box, without looking inside, and by this process of sampling you are to determine the contents of all three boxes. What is the smallest number of drawings needed to do this?"

Without change there is no innovation, creativity, or incentive for improvement. Those who initiate change will have a better opportunity to manage the change that is inevitable.

- William Pollard

CHENNAI – KANYAKUMARI INDUSTRIAL CORRIDOR (CKIC) PROJECT

Highways Department is executing, various road infrastructure projects for the economic and industrial development of the State. The projects include State funded, Centrally sponsored and external aided schemes. East Coast Economic Corridor (ECEC) is one among the 5 Industrial Corridors announced by the Department of Industrial Policy and Promotion, Government of India, considering the overall development of Country and States. Government of India has proposed to develop ECEC with loan assistance from Asian Development Bank.

CKIC has been planned to cover 23 Districts (13 Coastal Districts, 10 Interior Districts) and connects NH7, NH45 and SH 49 which links the north and southern parts of State.

Asian Development Bank has prepared a comprehensive development plan for CKIC addressing the development plan for various sectors. Under the road sector, 8047 km road stretches have been identified in the CKIC influence zone for development in 6 phases. Out of 8047 km road networks identified, 4318 km are NH and 3729 km are SH.

In this regard several discussions have taken place at various levels and has been decided to take up the following 15 roads for development with ADB loan assistance on **fast track mode as the DPR for all these roads have already been prepared and kept ready through TNRSP II.**

S.No	Section	Total Length (in km)	Project Cost (Rs in Cr)	LA cost (Rs in Cr)	Proposed Configuration
1	Tiruchendur to Ambasamudram via Palayamkottai (SH 40)	74.90	407.64	31.09	2 lane PS
2	Melur to Karakikudi via Tirupattur, Kundrakudi (SH 191 & SH 191A)	46.90	213.71	16.34	2 lane PS
3	Thanjavur to Mannargudi(SH 63)	27.59	143.63	10.95	2 lane PS
4	Kumbakonam to Mannargudy (SH 66)	34.26	177.90	13.56	2 lane PS
5	Kumbakonam to Sirkazhi(SH 64)	38.07	307.49	145.22	2 lane PS / 4 lane PS
6	Mayiladuthurai to Thiruvarur (SH 23)	31.28	199.04	137.16	2 lane PS
7	Mohanur – Namakkal –Senthamangalam-Rasipuram Road (SH 95)	46.44	249.32	162.42	4 lane PS

8	Tiruchengode to Erode(SH 79)	10.27	205.59	115.12	4 lane PS
9	Thuraiyur to Perambalur(SH 142)	31.49	107.41	25.00	2 lane PS
10	Omalur to Tiruchengode via Sankakiri including Tiruchengode Bypass (SH 86)	54.80	539.17	411.52	4 lane PS/ 2 lane PS
11	Chengalpattu – kanchipuram Road (SH 58) (60/037-107/350)	47.31	389.95	67.00	4 lane PS
12	Chengelpet to Kancheepuram (SH 58) (30/0 - 60/037)	39.75	419.95	68.85	4 lane PS
13	Cheyyur (ECR) to Polur(SH115) including ECR link	110.00	529.96	64.70	2 lane PS
14	Virudhachalam to Ulundurpettai (SH 69)	20.88	114.92	21.00	2 lane PS
15	Cuddalore to Madapattu Junction (SH 9)	40.60	379.16	284.16	4 lane PS
	TOTAL	**654.54**	**4384.84**	**1574.09**	

The Government has accorded Administrative sanction for the project is Rs.6448 Cr which includes cost of Land Acquisition to the tune of Rs.1574 Cr. The cost of land acquisition has to be borne by State Government. Out of Rs. 4384.84 Crore of civil works component, Rs.3288.15 Crore (Approximately US $484 million) will be supported by Asian Development Bank loan assistance and remaining Rs.1096.69 Crore has to be borne by State Government.

The DPR for the projects have been prepared in line with the requirements of ADB and sent to DEA for obtaining loan assistance from ADB. The screening committee of DEA reviewed the proposal in detail on 26.07.2017 and given its consent. DEA has sent the proposal to Asian Development Bank for obtaining loan assistance of US$484 million on 10.08.2017.

In continuation, the reconnaissance mission of ADB met the official of Highways Department on 01.11.2017 and discussed about further course of action to take the CKIC road projects to next stage and implementation. On 02.11.2017, the Transport Specialist of ADB made a visit of project roads.

(Source: C & M Wing)

25th Ramasamy Reddy Memorial Endowment Lecture - Silver Jubilee Year Celebration

In recognition to the exemplary contributions of Er. K. Ramasamy, the Founder – Director of Highways Research Station, an Endowment, "Ramasamy Reddy Memorial Endowment" was instituted under the orders of the Government of Tamil Nadu and with the corpus fund contributed by the Engineers of the Highways Department, in the year 1988.

The 25th Ramasamy Reddy Memorial Endowment Lecture was conducted on 20.02.2018 in the presence of the Additional Chief Secretary to Government, Highways and Minor Ports Department.

Retired Engineers of Highways Department and staff of HRS were honoured on the occasion for their meritorious service.

"Souvenir of HRS – A journey through time" is a reminder of the events and works done by the HRS and the first copy of the Souvenir was released by Additional Chief Secretary to Govt., Highways and Minor Ports Department.

A technical lecture is arranged every year under the auspices of the endowment. Being a silver Jubilee year, a special lecture was given by Shri. D. P. Gupta, Former Director General (Road Development) & Additional Secretary, Ministry of Road Transport & Highways under the topic **"Preservation of Road assets".**

The lecture enlightened the participants in preserving the road assets which is major part of our Indian Economy.

Welcoming the Chief Guest of the function

Lighting of Kuthuvilaku

Felicitating the Additional Chief Secretary and Chief Guest

Releasing of the Souvenir of HRS

Special Address by ACS

Honouring the Retired Engineers and Retired Staffs of HRS

Honouring the Engineers for their valuable works

Special Lecture by the Chief Guest

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Engineers Retired from service by Super-annuation on 28.02.2018

S.No.	Name	Designation
1	**Er.T.Raju**	**Deputy Chief Engineer (H)** N&RR,Chennai
2	**Er.G.Ramamoorthy**	**Assistant Divisional Engineer(NH),** Vellore.
3	**Er.S.Gurusami**	**Assistant Divisional Engineer (H),** C&M, Andipatti.
4	**Er.S.Sivakumar**	**Assistant Divisional Engineer (H),** Projects, Kattumannarkoil.
5	**Er.S.Ashokan**	**Assistant Divisional Engineer (H),** Projects, Nagercoil.

Engineers Retired from service by Super-annuation on 31.03.2018

S.No.	Name	Designation
1	**Er. K. Shanmuga Sundaram**	**Deputy Superintending Engineer(H),** C&M, Madurai.
2	**Er. T. Devaraj**	**Assistant Divisional Engineer (H),** TNRSP, Thirupur- 1
3	**Er. P. S. Murugavel**	**Assistant Divisional Engineer (H),** CMDP Div-1, Chennai

You will always be remember for your accomplishments.

Thanks for your years of work and dedication to the department and congrats on your Retirement

MULTI-MODAL TRANSPORTATION CONCLAVE

(By:Er.S.Satheesh, JD(Planning), O/o the DG/HD)

A One Day Conclave on Multi-Modal Transportation was organized by the PHD Chambers of Commerce, New Delhi, during 23/03/2018. The session was attended by Shri. **Rajeev Talwar**, Sr. Vice President, PHD Chambers of Commerce, Shri. **Ashish Wig**, Chairman, Ports, Road & Other Infrastructure Committee and moderated by Dr. **Rajneet Mehta**, Principal Director, PHD chambers of Commerce. The Key Note addresses were delivered by Shri. **Kailash Aggarwal**, Joint Secretary (Sagar Mala), Ministry of Shipping, GOI, Shri. **Kalyana Rama**, CMD, Container Corporation of India Ltd (CONCOR), Shri. **Anant Swarup**, Joint Secretary, Logistics, Ministry of Commerce, GOI. There were three Panel Discussion Sessions, which were oriented towards the Logistics field and the Integration of Multi-modal transportation systems.

Panel –I Discussions were on the topic of Key Drivers for Economic Growth wherein Transport & Infrastructure as key drivers for economy, Investment needs by Government and Private sector, Bharat mala to revive India's capex cycle, Station Redevelopment, Multi-modal Integration Green Transport, Safety in Transport sector were all discussed.

The Infrastructure facilities developed for the movement of Goods and commodities from the place of origin to the destination was elaborated. The inclusive policy of single window clearance for the movement of commodity or goods from one mode, to the other was detailed.

The objective and orientation of enabling the end-to-end service for the movement and safe conveyance of commodities, is to be shared by all the stake-holders and service providers, it was emphasized. Er. S. Satheesh, Joint Director(Planning), Highways Department, spoke about the safety needed in Road Transport, citing the Initiatives of the State of Tamil Nadu, as a case-study example.

Panel – II discussion was on the Integration of Multi-modal Transportation network for attaining Competitiveness, which analyzed Multimodal Transport Scenario in India, Integrated Transport Network, Smart Warehousing, Intelligent Transportation System, and Skills for Logistics, Public Private Partnership etc., Shri. **Capt. Yogesh Puri**, Regional GM, Shipping

Corporation of India (SCI), GOI, Shri. **P.N.Shukla**, Director, GATI Ltd., Shri. **Atul Holkar**, Senior Vice President-Supply Chain, Varun Beverages Ltd., Shri. **Capt. T.S.Ramanujam**, CEO, Logistics Sector Skill Council were all involved in the panel discussion with Ms. **Kajori Sen**, Senior Journalist, wherein the facilities needed and intervention of Technology for the efficient logistic support system was discussed. The need for imparting skill set for the hands involved in logistics was emphasized. The recognition to the skilled workforce and human resources strength for logistics is need of the hour, it was informed. The thought of making the jobs in Logistics field aspirational, was also aired by the Experts.

Panel –III discussion was held on **'Moving towards future: Intelligent and Integrated Solutions'**, wherein GST and E-way bill implications on freight movement, Futuristic solutions through technology, Congestions and Gateways for movement, digitization, Newer Developments in Urban scenario were the highlight topics. Expert speakers Shri. **Mangal Dev**, Director, Hitachi India Pvt. Ltd., & Head, Hitachi Railways System Business Unit, Shri. **Mukul Gupta**, Senior Partner, Avathara Legal and Chairman, Indirect Taxation Committee, All India Federation of Tax Practioners, Shri. **Vishwas Singh**, VP – Government Affairs and Advocacy, Shri. **Parvinder Singh**, MD, Hans Infomatic Pvt. Ltd., Shri. **Barinder Sethi**, VP- Operations – Qinfra, Quess, all spoke on salient topics above. The advent of technology in interesting transformation of applications developed oriented to customer management in Hitachi Railways System was elaborated. The applications of optimizing the Public Transport – Bus network was highlighted through the case studies of BEST, Mumbai based operations. The Crowd mapping through Android Phone based applications, Data driven Traffic Management system were all detailed in the session. The discussions on the Mobility Stakeholders and the assurance in terms of Reliability, Affordability, and Efficiency in operations were highlighted. The Stakeholders of Mobility loom large over three divisions, viz., **Citizen, Solution Providers** and **Regulators**.

The Regulators seek the following four aspects;

The need for integration of various services and operations for end-to-end supply-chain link of Logistic in the country as a whole was discussed in the session.

The Road Infrastructure is continuously developed by the Highways Sector both the nationally and at the State level. The Infrastructure growth trend in the State of Tamil Nadu has been very encouraging in the recent past, where every concerted effort is consciously made to keep pace with the rising demand. The demand has been rising, fully aware of the quality network connectivity that is in place and the road map for the future demands. The recent years have seen a spurt in growth of economy and rise in living standards, contributed majorly by the Road sector.

Yet, the one-day conclave on Logistic support and Integration of Multi-modal transportation for the best utilization of logistic providers and users, have opened a new vista, the roles and capacities to be donned by this sector, underlined with exact requirement.

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PAVEMENT ROUGHNESS

Pavement roughness is generally defined as an expression of irregularities in the pavement surface that adversely affect the ride quality of a vehicle (and thus the user). Roughness is an important pavement characteristic because it affects not only ride quality but also vehicle delay costs, fuel consumption and maintenance cost.

Roughness is a measure of the longitudinal smoothness for the segment of Road being overviewed. It is used as an indicator to determine how the road has deteriorated with regard to ride comfort. Roughness can be determined by different ways in units such as, IRI, NAASRA, BI roughness value etc. All of these systems of measurement consider the amount of vertical displacement that is felt by a passenger in the car driving over the longitudinal section of road. Generally the higher the number the rougher the road and the less comfortable the ride is to road users.

ROUGHNESS MEASURING INSTRUMENT

Rod and level survey: This survey is an accurate measurement of pavement profile. For large projects, this type of survey is inappropriate and uneconomical.

Dipstick profiler: Dipstick is a fully integrated data collection and processing system that measures and records road profiles accurately and quickly. The equipment consists of the Dipstick road profiler, Micro computer, RS 232 interface, Software library for automatic calculation of IRI, F - Numbers, True Profile plots and other standards, all cords and accessories Sequential elevation differences are recorded automatically by the on - board computer. Recorded information is then transferred to a PC or compatible computer for analysis.

Software is included to calculate and print various profile statistics including the Intemational Roughness Index (IRI), as well as the individual point elevation and local surface curvatures. A continuous scaled plot of surface profile can also be produced with a printer that has IBM Graphics. For correlation with 5th Wheel Bump Integrator Values, the following relation may be used:

$$BI = 630\ (IRI)1.12$$

Where, BI = Bump Integrator Roughness in mm/km

IRI = Intemational Roughness Index

Profilographs: Profilographs have been available for many years and exist in a variety of different forms, configurations, and brands. Due to their design they are not practical for network condition surveys. Their most common use today is for rigid pavement construction inspection, quality control, and acceptance. The major differences among the various profilographs involve the configuration of the wheels and the operation and measurement procedures of the various devices.

Profilographs have a sensing wheel, mounted to provide for free vertical movement at the center of the frame. The deviation against a reference plane, established from the profilograph frame, is recorded (automatically on some models) on graph paper from the motion of the sensing wheel. Profilographs can detect very slight surface deviations or undulations up to about 6 m (20 ft) in length.

Response type road roughness meters (RTRRMs): one another roughness data collection equipment is the response type road roughness meters (RTRRMs), often called "road meters". RTRRM systems are adequate for routine monitoring of a pavement network and providing an overall picture of the condition of the network. The output can provide managers with a general indication of the overall network condition and maintenance needs.

RTRRMs measure the vertical movements of the rear axle of an automobile or the axle of a trailer relative to the vehicle frame. The meters are installed in vehicles with a displacement transducer on the body located between the middle of the axle and the body of a passenger car or trailer. The transducer detects small increments of axle movement relative to the vehicle body. The output data consists of a strip chart plot of the actual axle body movement versus the time of travel.

Profiling devices: By using either contact or non-contact sensor system these type of devices very accurately can evaluate the longitudinal profile of a pavement. For the measurement or mapping of road profile the non-contact systems use laser/ultrasonic devices. These profile-meters used to calibrate RTRRMs are normally expensive.

Indian Practice: In India the roughness is measured using fifth wheel bump integrator (developed by CRRI) and is reported as Unevenness Index (UI) in mm/km. For arriving at IRI from UI values the

bump integrator needs to be calibrated for specific set of parameters using dipstick profiler or MERLIN or Rod and level as per IRC SP 16:2004

S.No	Type of Surface	Condition of Road Surface		
		Good	Average	Poor
1	Surface Dressing	<3500	3500-4500	>4500
2	Open graded Premix Carpet	<3000	3000-4000	>4000
3	Mix Seal Surfacing	<3000	3000-4000	>3500
4	Semi-Dense Bituminous Concrete	<2500	2500-3500	>3500
5	Bituminous Concrete	<2000	2000-3000	>3000
6	Cement Concrete	<2200	2200-300	>3000

Maximum Permissible Values of roughness (mm/km) for Road Surface as per IRC SP - 16:2004

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One draw is the smallest number needed

"The key thing here is that the box does not contain what it says on the label. As such you can guarantee the contents of each box with one draw. Here's how: Draw a marble from the box labeled BW (since it is labeled BW it must be either BB or WW) If you draw a white for example you know 100% that it is the WW box. Then there are only two boxes left labeled WW and BB in this example and the only two things that they can be are BB or BW. The box labeled BB cannot be BB and so hence must be the BW. This leaves the box labeled WW to be BB by elimination. Same thing works if you pick a black marble first. The key is picking from the BW box in the start and confirming what it actually is. So One draw is the smallest number needed.

OUR HEARTY CONGRATULATIONS TO THE RECENTLY PROMOTED ASSISTANT DIVISIONAL ENGINEER

It is wonderful to see that all the hard work,dedication and the effort you put in finally paying off…..

Our heartiest Congratulation on your promotion