



**8th IRF Regional Conference
Road Infrastructure for Safe Mobility**

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**PLENARY SESSION: Vision and Policy for Safe Roads: Safety First Approach
TOPIC: Development of Safe Highways & Expressways**

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A.K. Upadhyay (Session Chairman) – Now it is my turn to invite the most important person today, Mr. C. Kandasamy, who is the Director General, Roads and Special Secretary to the Govt. of India and also President, IRC. He is also the apex person, in-charge of the road engineering issues, standards and safety.

Mr. Kandasamy, please.

Mr. C. Kandasamy: Shri A.K. Upadhyay, former Secretary, Ministry of Road Transport & Highways and Chairman of this Plenary Session, Shri D.P. Gupta, former Director General, Road Development, Ministry of Road Transport & Highways and Co-Chair for this session, distinguished speakers, distinguished delegates, friends, ladies and gentlemen. A very good morning to you.

I am glad to be here on this occasion, the 8th Regional Conference on 'Road Infrastructure for Safe Mobility' to share my views and receive your suggestions especially because in my speech there is no presentation. In my speech, I'll be focusing more on non-conventional and holistic approach for road safety. Unlike rail transport and air transport, the highways have mixed traffic. As our Chairman of the session said we have even jugaad vehicles on our roads and the users and the drivers are not appropriately trained as in the case of rail traffic and air traffic. And also the traffic, highway traffic is not monitored centrally and not enforced by a single agency. As one of the speakers also pointed out there are so many agencies involved in enforcement. The Terrain - rural and urban conditions, have also to be kept in view in greater detail as compared to railways. Safety in such a scenario has to address all these issues in a comprehensive manner to achieve safety solutions.

Effective policies play a major role in planning and developing safe infrastructure. Effective policy interventions are needed to address safety issues during its operation also. Policies and strategies can be short term and long term. They can be conventional and non-conventional also. As I said, I will be focusing more on the non-conventional approach.

Currently, the situation is we have progressed well on NHDP – National Highway Development Programme, focused more on four-laning, at least cost, so that the available resources are stretched to result in visible improvement of four-laning and six-laning. Focus had been on four-laning and six-laning and not as much as required for safety and services. As mentioned by Mr. R.K. Singh, we are not focused on safety and services.

In this context, Indian Roads Congress has suggested at its Coimbatore session in January this year, that roads should be designed not only for vehicles, but for people safety and services. Mr. D.P. Gupta, the Co-Chair, had been very actively associated with Indian Roads Congress and is advising it on various issues including road safety and because of this resolution of Indian Roads Congress in the last session at Coimbatore, I hope and I understand all the committees of IRC are also focused on ensuring that the roads are not only for vehicles but for people's safety and services. In the conventional ways of addressing issues of safety, we have problems of funding and land acquisition – major problems, and of course we have some unplanned and unanticipated developments along the corridor, which is beyond the control of the highway authority. That is also a major concern.

Well, in the mega NHDP project, we strive to provide engineering measures. The Chairman of the session mentioned the importance of engineering measures and during this period the engineering measures we had compiled and issued a policy note from the Ministry side also. So in the mega projects of NHDP we strive to provide the record engineering measures inspite of concerns of fund constraints for addressing safety issues.

For the features not proposed under NHDP, the Ministry has earmarked a dedicated funding of 10% of planned provisions for each state only for road safety works. This is in addition to the provisions made in the plan by the Ministry for education, emergency services and all that.

We have also come up with some policies. Transfers bar markings at accident prone areas, black spots. We have issued policy instructions and the information that has come up, we have deliberated in the IRC session mid-term and it is very promising. You would have seen when we approach the Delhi Airport, the T3 Airport Terminal, the lines across the pavement are thermoplastic painted, which cannot be missed by the driver even if he is overtaking another vehicle. Normally, the conventional roadside signboards can be missed in case a vehicle is overtaking another but here

they cannot be missed and in addition it gives a rumbling effect to alert the driver. So instead of depending only on the road signs, now we have come for the pavements, the transfer bar markings, we can call it barcode marking.

Another step, which we have taken, is the segregated pathways. Starting with schools, where children walk from their schools to their homes in adjacent villages, we have sanctioned some jobs on a pilot basis so that a segregated path is provided for the children and pedestrians. Other pedestrians also can use it behind the tree line. So the segregation of the pedestrians, school children on one side of the road, may be in the next phase we will come up with segregation of the two-wheelers on the other side of the National Highway.

In the Ministry, another policy decision we have taken is that of introducing a two lane with paved shoulders. Any NH should have a two lane with paved shoulders, as a minimum requirement. This will ensure the safety of fast moving vehicles and also give more space for two-wheelers until segregated space is provided for two-wheelers. We have also come up with an enabling policy circular for rest laybys within the NH or ROW, every 50 kms or so, so that the vehicle drivers, whether they are passenger car drivers or truck drivers, can park their vehicles, take some rest and proceed on their journey in a safe manner. Safety for them and safety for others.

We have also issued other policy instructions. You know, normally when our DPR consultants consider a bypass, we expect them to consider minimum three alternatives through the town by widening the existing road on the other two sides. Now we consider an elevated option through the town itself. I will explain further this aspect. When you have an elevated corridor through the built-up area, you effectively segregate the fast moving vehicles from the local traffic, which will not happen in case you have a lateral bypass. The vertical bypass will ensure the segregation of fast moving vehicles. Of course, its economic considerations will be taken into account.

The Ministry has also called for empanelment of National Project Monitors (NPM). It had retired officers, who will assist in also identifying and addressing safety issues. Non conventional policies and strategies are likely to overcome hurdles and deliver results in a better manner and quickly also.

The Ministry since more than a decade has a policy circular regarding allowing advertisement based gantry signages. We have extended this recently to cover pickup bus stops and foot overbridges, pedestrian foot overbridges on advertisement based PPP model. We have also come up with a policy circular for Advertisement based Crash Barriers and I hope with Corporate Social Responsibility coming into play, this advertisement based crash barriers will ensure road safety. I am of the opinion this type of advertisements based barriers are not going to create

more accidents but when we provide this experimental crash barrier, we will also have a study, before and after study, to assess whether the accidents increase or decrease.

There are other things in the pipeline also. In the Indian Roads Congress session, we had a presentation regarding a Robotic Multi-level Car Parking to reduce congestion. This will be on a PPP model. Some policy changes have to be made because if it is completely automated, no driver needs to take the vehicle to different floors of the car park, so the requirements of circulation and the ramp for the vehicles are not required. The robot itself takes it in the lift and parks it at many places. So some policy changes have to be made by the concerned authorities to make this robotic multi-level car parking a success.

There was a presentation to Indian Roads Congress by the School of Planning & Architecture about Sky-walks. They have done a study at our ITO for providing about a kilometer of sky-walk with some commercial kiosks for the pedestrians, who use it, to make it viable and it becomes a win-win for all stakeholders in cities like Delhi. We can think of Karol Bagh or Chandni Chowk area with elevated pedestrian walkways, which finance themselves and then that becomes a win-win for everyone.

There was a suggestion, you know I keep discussing with many people like this audience lot of inputs come in. Somebody suggested that why don't you declare a national highway, a stretch of national highway after a Corporate. You have your NH number, you have an old NH number, you have a new NH number, you can have a Corporate, name your highway after a Corporate and then the Corporate should be expected, as a part of their Corporate Social Responsibility to provide all the safety features along the highway. Take it as a pilot project. I will request your views also on that.

Now coming to the long term. The future trend is that Government of India through a Consultancy has identified over 18,000 kms of Greenfield Expressways and over this long term, Greenfield Expressways are likely to become the flagship programme of this country and the mainstay of our highway network. I look forward to these Greenfield Expressways to be developed as a conventional expressway instead of as a non-conventional expressway, as an inclusive highway. Conventional access control expressway giving way to a non-conventional expressway, which creates and facilitates access to development, development of livable cities, which we do not have in this country (as per UN Report), with development of educational and medical facilities for the people along the rural corridor, cold storage and supply chains; generating, preserving and distributing water, power and telecommunication networks. Simply, instead of being a passive infrastructure, on which vehicles are expected to be driven, can we think of an

active highway, transporting vehicles containing passengers and goods. Something like this roll-on roll-off concept of the Konkan Railway. There is an inclusive highway, the future expressway instead of being a conventional expressway becomes a non-conventional expressway, an inclusive expressway, an active infrastructure and not the current passive highway.

Again, if you consider the problems of road safety there are four E's as mentioned by the Chairman, today. If you also want to consider each of the E's as a separate entity, there can be conventional and non-conventional solutions and the individual E's non-conventional enforcement through surveillance cameras can be there, educating and rewarding through IT and cell phones, to reach a wider audience. These scenarios are also being planned by us, which will be applicable not only for the existing NHDP but also for the Greenfield expressways.

For the future, the development of non-conventional expressway can take place in a holistic, integrated, transit oriented manner, with real estate development along the inclusive corridor funding the project and maintaining it also. In our existing cities, which are bursting and there seems to be a need to augment their infrastructure services due to rapid urbanization, re-development is required. A private man comes to me and says that I will take your property, re-develop it, give you more than what you have, one or two floors more. Something like that, if he can re-develop the existing corridor, provide buildings above the road itself, relocate the dwellers by the side of the road and get the space adjacent to the highway, free it for more development. May be that can be a non-conventional approach. Government of India, has engaged a Consultant, in two cases; one the Spot Improvement of Hero Honda Chowk; another the Corridor Improvement of Delhi Border to Dasna and onto eastern peripheral expressway. One of the suggestions given by the present Chair, Mr. Upadhyay Ji is that you have also to plan for future development requirement. Additional floors of the buildings above the highway that we are taking into account and they are expected to come up in this month will be for the Hero Honda Chowk.

I look forward to Government of India joining hands with the State Governments, MoUD and other departments to have non-conventional inclusive intercity expressways. I also look forward for re-developing the existing urban reaches through the model of Robotic multi-level car park with skywalks to ensure safety through this non-conventional holistic approach to infrastructure development for safe highways.

Thank you very much.