

Institutions, Organisations, and Governance to Promote Road Safety

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Background

This paper was prepared for a very wide-ranging symposium¹, which dealt with all aspects covering the lifetime professional and personal interests of Professor Dinesh Mohan, from human rights to the environment, public health, urbanisation, and almost all issues related to transport (Tiwari, Varghese, & Bhalla, in press). It reflected his very high sense of ethics and concern for fairness and equity in all his activities. It was organised by Professor Geetam Tiwari and Dr Matthew Varghese along with their colleagues in honour of (late) Professor Dinesh Mohan.^{2,3}

I was assigned the job of providing my reflections on institutions, governance, and organisations related to traffic safety.

This article reflects what I learnt by chairing the National Transport Development Policy Committee (NTDPC), which was appointed by then Prime Minister Dr Manmohan Singh in early 2010 and whose report was submitted in early 2014 (National Transport Development Policy Committee, 2014a).

Dinesh was among the most active members of the committee and attended each and every one of the 21 meetings held over four years. So the report reflects a number of his ideas on transport, but particularly those relating to urban transport, human resources, research and development, and, of course, safety.

Traffic Safety

As this symposium illustrated, among the many issues that engaged Professor Dinesh Mohan's attention, traffic safety was an area on which a significant proportion of his scholarly work was focused. So I will start with some remarks on the current state of traffic safety.

What do the data tell us? Road accidents take place all over the country, on national highways, state roads, urban roads, and rural roads alike.

Consequently, the reporting of accidents, fatalities, and injuries is very decentralised and dispersed. Furthermore, many different sources provide these data to the national repository of information. As can be expected, there are always some problems in the reporting of data on such issues.

The main source of information on traffic accidents is the NCRB—The National Crime Reporting Bureau. It reported 1,40,000 road traffic fatalities in India in 2011, an increase from around 80,000 in 2001. The number for 2021 was just over 1,50,000 (Government of India, 2022), around the same order as a decade earlier. This suggests a possible plateauing of traffic fatalities over the last 10 years despite the emergence of many more highways and a very significant expansion in traffic over this period. So there is, perhaps, some cause for optimism.

However, whereas the Ministry of Road Transport and Highways (MoRTH) reported around 1,50,000 fatalities in 2020, the World Health Organization (WHO) estimated around 3,00,000 in 2016 (World Health Organization, 2018), and the Registrar General of India also noted at least a 50% under-reporting of traffic fatalities. This is consistent in reconciling Government of India data and the reported WHO estimates. Thus, there is significant uncertainty about the actual number of traffic fatalities in India. But it can safely be said that there are about 1,50,000 to 3,00,000 annual road deaths in India. What does this mean?

There are about 400 to 800 road accident deaths in India per day depending on which estimates can be relied on. This can be compared with a total of about 5,20,000 to 5,30,000 (Worldometer, 2023) total COVID deaths in India during the first two peak years of COVID from February 2020 to February 2022, which is around 730 deaths a day over two years. The traffic death epidemic, which carries on relentlessly, is therefore of a similar order of magnitude as the COVID epidemic.

¹ Held on September 7-9, 2023, at the Indian Institute of Technology, Delhi.

² Former Professor for Transportation Planning and Safety at IIT, Delhi.

³ Disclosure: He was my elder brother.

Yet, the attention given to the epidemic of road fatalities is not even a fraction of the attention the COVID pandemic has received globally and in India. One can imagine the impact on road fatalities if similar policy attention was given to road safety. That can only happen if people understand that scientific research and consequent policy solutions are possible and can reduce road deaths significantly.

Ironically, the unfortunate death of Mr Cyrus Mistry⁴ on September 4, 2022, in a road accident just a few days before the symposium brought temporary attention to this problem—but he was just 1 out of at least 400 that day. Much of the discussion was devoted to measures that can improve safety inside the car in the event of accidents. The discussion was concerned with whether more airbags should be mandated in smaller cars as well. However, as Matthew Varghese mentioned in his initial remarks in the symposium, most accidents, injuries, and deaths occur outside the car. And, therefore, it is not just safety inside the car that is important. What is not appreciated adequately is that the exterior of cars, road design, availability of pavements, cycle tracks, and so on are all amenable to substantial improvement, which would reduce fatalities and injuries sustained on roads. This aspect needs much more emphasis in road safety research, which is focused on road conditions in India and other developing countries, unlike in advanced countries, where traffic is much more segregated than it is in our countries.

But the story does not end here. It is estimated that for every traffic fatality, there are around 20 serious injuries requiring hospitalisation and around 3 injuries resulting in permanent disabilities. So, if there are 1,50,000 to 3,00,000 deaths per year, around 4,50,000 to 1 million people suffer from permanent disabilities every year, and around 3 to 6 million significant injuries are sustained in road accidents. The financial costs of the resulting medical attention, and the human misery caused both by the deaths and the resulting disabilities and injuries, can only be imagined.

Just as the Government of India was able to launch a major mission to vaccinate the whole country during the time of COVID, it is possible that if a similar campaign were launched on road safety,

there would be significant progress, leading to a significant reduction in the miseries caused by road traffic accidents. We should think of safety policy as a vaccination against accidents. That may sound ridiculous, but it is not.

What kinds of vaccinations can be devised against traffic fatalities and injuries?

As I have already noted, it is encouraging that the officially reported data shows a plateau in India since around 2015. It is worth researching why this improvement has occurred despite there being many more cars, higher speeds, and more highways now relative to the mid-2010s. So something must have been done which needs acknowledgement and can provide an understanding of what needs to be done further. What kind of vaccination is required for road traffic safety?

That is what brings me to the importance of institutions, organisations, and governance.

Other countries' experiences provide us with great lessons on how we can indeed vaccinate ourselves from traffic fatalities and injuries. Just as COVID vaccinations are not that effective in preventing the incidence of COVID, but they do reduce fatalities and the severity of infections, carefully designed safety institutions, organisations, and governance can be equally effective in this quest for enhanced protection from road and other accidents.

Evolution of Thinking on Road Safety

There has been a great change over the last 50 years or so in the thinking about road safety, the causes of accidents, and what can be done about it.

Paradigms have changed from an emphasis on human error and behaviour causing accidents and fatalities. In such a view, accidents were predominantly blamed on faulty driving and the carelessness of pedestrians, cyclists, and other road users. In reading about accidents in the media in India, such reasoning continues to be the dominant narrative: if only we could be more disciplined all around, if we could obey rules, if pedestrians did not jaywalk, and so on, accidents, injuries, and fatalities would be reduced.

⁴ Former Chairman of Tata Sons, among the largest business conglomerates of India.

What does such a view lead to in terms of solutions?

- Behavioural change
- Education of road users of all types
- Greater punishment of violators

And the view is that there really is no solution since these measures are difficult to implement and to make effective.

The paradigm change in thinking that has taken place takes for granted that humans will be humans: they will be careless, may be drunk, may not obey rules, and the like. What needs to be done is to make systematic design changes that recognise that accidents will happen regardless of education, behavioural change, and so on, and our job is to minimise the resulting injuries and fatalities.

And this is where governance, organisations, and institutions come in. What is needed is a system view that addresses a whole host of issues as covered by Tiwari et al. (in press) and others in the symposium:

- Better design of roads and overall infrastructure
- Better signage
- Better vehicle design
 - Internal cushioning
 - External design: elimination of sharp edges and so on
 - Compulsory seat belts, airbags, helmets, and so on
- Better road services/medical care in case of accidents
- Legal and institutional framework

The philosophy is to provide “automatic protection” rather than assuming that people will behave in a safe way.

How is this to be done? Transport safety management must move from action based on experience, institution, judgement, and tradition to one based on

- scientific research,
- empirical evidence, and
- analysis

This needs appropriate institutions.

Institutions to Promote Safety

Successful countries set up institutional mechanisms over a few decades, and their results became evident starting in the 1970s. This involved many years of capacity building, institution building, improving knowledge production capability through research and development, and coordination among government departments.

This latter issue assumes great importance in India because of the proliferation of ministries/agencies dealing with transport at the central level and their reproduction across 28 states and union territories. The NTDPDC had secretaries representing six ministries and four others representing key transport-using ministries. So, there were ten secretaries of ministries on this committee (National Transport Development Policy Committee, 2014b, p.3). This illustrates how complicated it is to actually set up a nodal agency or a lead agency which requires such complex coordination in a bureaucratic setting. Nonetheless, such an agency does need to be set up. The problem is magnified by the presence of 28 states and eight interfaces. So, it's a Herculean task, but it still has to be done.

What have other countries done? Although the structures of such agencies differ across countries, depending on their respective governance structures, from federal to unitary countries, what is common is the setting up of a head nodal agency that coordinates across departments/ministries and states, if the country has a federal structure.

Such a lead agency is usually given an independent statutory status, adequate funding, human resources, and coordinating power. For example, the National Highway Traffic Safety Administration, housed in the Department of Transport in the United States, has as its mission statement the following:

“To save lives, prevent injuries and reduce economic costs due to road traffic crashes through education, research, safety standards and enforcement.”

This is a simple statement but sums up what any such agency should strive to do. Its annual budget is around US\$ 1 billion, and about 15% is devoted to research. And it has about 600 staff spread across its central office in Washington, D.C., and across states.

There are similar institutions in almost all Organization for Economic Cooperation and Development (OECD) countries and increasingly in emerging market countries.

Let us look at the budget in perspective. US\$ 1 billion is about Rs 8,000 crore. Over five years, this would amount to Rs 40,000 crore. It may be argued that we cannot afford it. In comparison, we have committed about Rs 200,000 crore as incentives in the Production-linked Incentive (PLI) scheme for promoting manufacturing in India. So, this is affordable. Moreover, if the much lower compensation levels in India are accounted for, a similar agency with an annual budget of not much more than Rs 2,000 to 3,000 crore would be needed, if that. Now that a National Research Foundation is being set up with an expected outlay of Rs 50,000 crore, a laudable step in the right direction, setting up a dedicated nodal organisation for traffic safety is quite feasible. With the very substantial expansion of higher-education institutions devoted to engineering and science, there should be no difficulty in recruiting the kind of personnel who will be needed to staff such agencies at both the central and state levels.

The benefits would be manifold, as illustrated by the reduction in fatalities, disabilities, and injuries in countries that have adopted such an approach to set up corresponding institutional mechanisms. Annual road traffic fatalities reduced from around 16,000 in Japan in the 1970s, to about 5,000 in 2016; from 3,300 to 600 in the Netherlands; from 8,000 to 2,000 in the United Kingdom; and from 55,000 to 30,000 in the United States over the same period. So the human and economic benefits from such expenditures would be huge and well worth the investment.

The Way Forward

So, what do we do?

MoRTH is the nodal ministry for road traffic safety. It has set up a National Road Safety Council with the representation of ministers from transport-related ministries, state governments, other officials, and non-official members. But it does not have statutory status, nor any significant budgetary resources, professional expertise, or a mandate for it to be effective.

What is needed is the setting up of national safety boards for roads, railways, water, and air transport alike. At present, there is a Commission on Railways Safety somehow housed in the Ministry of Civil Aviation, and the Directorate General of Civil Aviation (DGCA) is in charge of air safety.

What is really needed is a National Transport Safety and Management Board, which has been recommended repeatedly by government-appointed committees: first, by the Sundar Committee in 2007 (Government of India, 2007) and repeated by the NTDPC in 2014 and, also, more recently, by a committee appointed by the Supreme Court. Consequently, in October 2021, the government announced a National Road Safety Board, but details are not available yet. It seems that the government has had difficulty in finding appropriate people to appoint as the chairman and members of the board (Sultan, 2022).

Since it has been decided to set up such an agency, it is useful to delineate what it should look like and what it should do:

- It must not be just a committee but should be set up as an independent statutory organisation with an adequate budget and mandate.
- Most importantly, it should be an expert organisation with technical and domain professionals in all areas related to road safety.
- It should aim to assemble at least 250 to 300 professionals over a period of three years.

As it assembles such expertise, it should then aim to provide directions on the following:

- covering all transport sectors;
- road-related measures, including mandatory safety-related designs for each level of road, with enforcement power;
- vehicle-related design standards, again with enforcement power;
- advice on safety-related traffic laws;
- capacity-building related to police, hospitals, highway authorities, medical care, and rehabilitation;
- coordination with states;
- setting up multidisciplinary safety research centres in academic institutions; and
- help in setting up institutions at the state and city levels.

This is not at all a pipe dream. We have the advantage of being latecomers to the scene, and scientific research, standards, and designs are readily available to be adapted to our needs. We have done lots of things in this country that have changed our lives for the better. Once we put our minds to it, we can do it. After all, the Securities Exchange Board of India (SEBI) was set up in the 1990s to govern the capital market. It is now a very respected agency. It has a huge effect on the working of the capital market. Similarly, the Telecom Regulatory Authority of India (TRAI) was also set up in the late 1990s. I had the privilege of being a member of the authority in its initial years. The formation of the authority has had an extremely beneficial effect in helping bringing about the telecom revolution. We can do these things if we put our minds to it.

Professional expertise will have to be built up purposefully. This can be done. IT companies hire more than 3,00,000 fresh graduates every year, so there should be no difficulty in hiring just 250 to 300 professionals in this area. The vast expansion of technical education in the country over the last 20 years makes it possible to build up such expertise. This could not have been said 20 years ago. But now it can. Judging from the various actions taken by the government—though somewhat hesitantly and not at the right scale—the time is perhaps right for starting this safety revolution in the country.

If we can set up systems to do more than two billion vaccinations across the length and breadth of the country, and with a higher proportion of people protected than in the United States, surely we can set up such safety institutions keeping in mind that the annual adverse fatality and health impact of road accidents is at least comparable to the COVID-based toll in India.

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He has been closely associated with the Indian economic reforms process from the late 1980s. He was Executive Director on the Board of the International Monetary Fund, Deputy Governor of the Reserve Bank of India, Secretary, Economic Affairs, and Chief Economic Adviser of the Indian Ministry of Finance, and Economic Adviser in the Ministry of Industry. In October 2021, he was appointed to the Prime Minister's Economic Advisory Council (EAC-PM).

He was also Chairman of Government committees that produced the influential reports on infrastructure: The India Infrastructure Report (1996), The Indian Railways Report (2001) and The India Transport Report (2014).

After the Great Financial Crisis, he co-chaired the G20 Working Group "Enhancing Sound Regulation and Strengthening Transparency" (2009), and the CGFS/BIS Working Group on "Capital Flows and Emerging Market Economies" (2009).

He has authored three books on urban economics and urban development; two on monetary policy: 'Monetary Policy in a Globalized Economy: A Practitioner's View' (2009), and "Growth with Financial Stability: Central Banking in an Emerging Market". His most recent book (edited) is "India Transformed: 25 Years of Economic Reforms".

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