Addressing a silent disaster

As India's economy registers 9% annual growth, promising material super-power status by mid-century, the nation is barely beginning to address a silent disaster, that of road casualties

Many users of two-wheel vehicles are very vulnerable

It was Dr. P K Sikdar [a director of International Consultants and Technocrats/ICT and a former director of the Central Road Research Institute/CRRI] who coined the phrase "silent disaster."

The scale of the disaster is readily described. Every year sees 100,000 people dead on India's roads, another two million removed from road to hospital. Around 7.7 million suffer minor road traffic injuries. The economic loss equates to 3% of GDP, as if economic growth were to stagnate, for four months of every year. Morbidity and mortality from road accidents is rising rapidly (see chart).

Road accident victims are predominantly males younger than 44 years, the most economically productive section of society, and in some communities 75% of families, whose main breadwinner dies in a road accident, descend into poverty. Children saved earlier from communicable and infectious diseases are becoming victims of a man-made epidemic.

The UK has a road fatality rate per 10,000 vehicles of about 1.6; for Japan the rate is 1.7; in Iran the rate, at 8.1, is still below ten. Across the southern Asian nations, the rate becomes inexorably higher with Thailand, Vietnam and Sri-Lanka all recording rates between ten and 15. But the rate for India exceeds 25, with China recording more than 26. In large measure, this reflects the sheer vulnerability of Indian road users.

While the vast majority of road fatalities in Europe, Japan and the United States involve two sets of vehicles, India's experience is very different. Around 40% of Indian fatalities are pedestrians: perhaps unsurprisingly, the next highest percentage is provided by people on two wheels, mostly cyclists, but with a depressingly high proportion of moped, scooter and motorcycle riders among them.

Typically, in a fatal collision, one of the parties has little or no personal protection. And, unregulated multi-purpose use of the only hard-top road in a particular locality is an ever-present invitation to disaster.

Why the silence?

Of all the systems that people have to deal with on a day-to-day basis, road transport is the most complex and the least safe mode of transportation. The personal and familial tragedies behind regularly occurring road crashes attract less media attention than other, less frequent but more spectacular tragedies. People die or are seriously injured, one or two at a time, in local incidents which may excite local passions for a day or so but which do not begin to register on any national radar. In effect one has a series of small silences which, in total, deserve a large shout.

India is not unique in this regard. Similar attitudes are to be found in other nations, both developed and less developed. But India stands at the brink of one of

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the largest expansions of a national road network of super-highways ever envisaged: hundreds of millions of US dollars are being invested to provide an internal road infrastructure consistent with long-latent aspirations to realise the full national economic growth potential, enhanced education and health services and faster eradication of poverty. By their nature, super-highways are associated with lower accident rates.

But it would be tragic if, in the necessary general expansion and improvement of the inter-state road network, no attention was paid to the current culture of small road accident silences, as they increased in line with general economic activity, and if road accidents were to be viewed as just another cost of doing business.

A lack of dedicated user lanes, or even of adequate road markings, puts people in jeopardy

"Around 40% of Indian fatalities are pedestrians: perhaps unsurprisingly, the next highest percentage is provided by people on two wheels"

Current scenario

Professional domestic analysts of the current road safety scenario of India stress the following:

- A lack of commitment and policy.
- Inadequate funding.
- A weak regulatory framework and diffused institutional responsibility and no mechanism for coordination.
- Road safety is not a priority on the agendas of key ministries and public sector agencies.
- A lack of research data: interventions are not based on research and properly presented and analysed data.
- Poorly designed/tested vehicles.
- Poorly maintained vehicles.
- Poor traffic discipline and education.
- Poorly designed/maintained roads.
- Poor enforcement levels.
- Often absent traffic management.
- Mixed traffic on one road, by type and slow mingling with fast traffic,

Remedies

A coherent set of remedies exists, based on a combination of issues:

- Local road engineering and construction
- Set/approve road safety standard.
- Conduct/commission road safety audits at all stages.
- Conduct/commission black spot treatment.
- Recommend traffic calming.

Vehicle safety design

- Set safety standards.
- Conduct/commission vehicle safety audits.

Crash investigation/data collection/data analysis

- Establish procedures for data collection, transmission and analysis at a variety of levels.
- Maintain a comprehensive database.
- Establish procedures and centres for multi-disciplinary crash investigations.

Knowledge production/research/institutional linkages

- Identify areas and subjects for research.
- Commission research projects.
- Create linkages between institutions at local, regional and national level.

Road user behaviour strategies/public awareness/education

- Promote education and campaigns on road safety amongst all user groups.
- Recognise NGOs working in the area.

Capacity building & training

- Set guidelines for building capacity and skills in the traffic police, hospitals, highway authorities, NGOs and other organisations involved with road safety.

Traffic management and enforcement

- Encourage state governments to implement enforceable laws for helmet and seat-belt use, and against driving under the influence of drink or drugs.
- Encourage state governments to computerise details regarding vehicle and driver licensing.
- Regulate drivers' working hours.
- Set guidelines for driver training and testing.
- Prescribe safety standards and infrastructure for non-motorised transport.

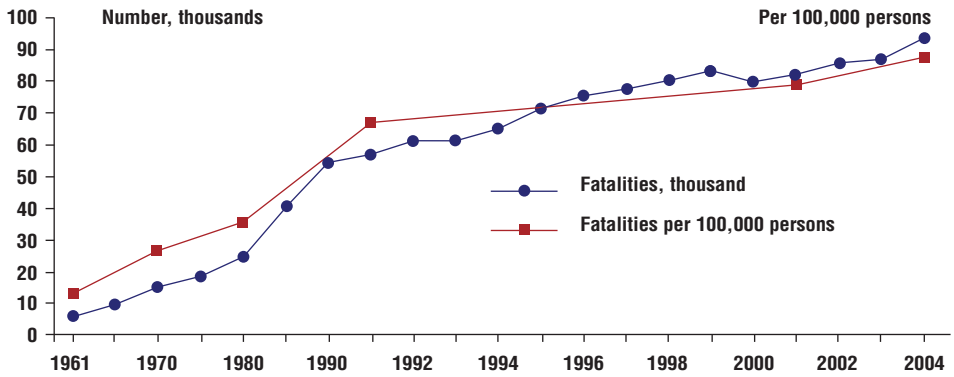
Post-trauma medical care

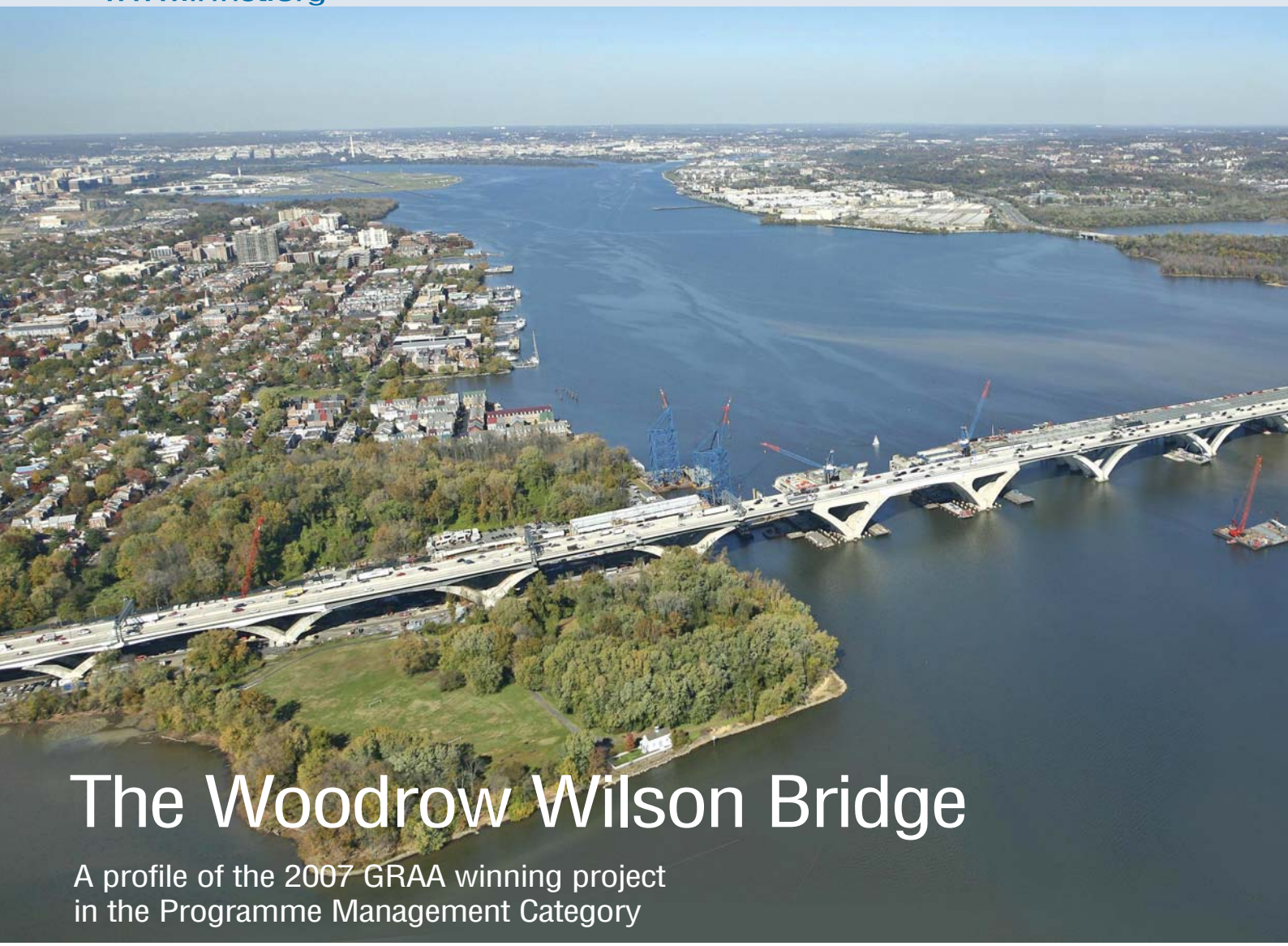
- Set guidelines to establish a grid of trauma care centres across the country.
- Set guidelines to create a grid of medical and paramedical facilities for dealing with highway injuries.
- Emphasise pre-hospital and acute care and rehabilitation.

None of the above remedies represent things which are unique to the needs of India. All are relevant to the needs of a modern industrial state. In the meantime India itself can do more (and in many cases is doing more) to mitigate the silent disaster. Not all the measures require complex national coordination, nor do they require large investments. The implementation of dedicated bus lanes in Delhi is but one example. Elsewhere, the introduction of mini-roundabouts has reduced fatality rates at certain urban crossings by up to 90%. Better signage and road markings are playing their part as are less lethal barriers and better advice of road works ahead. Through such small incremental improvements, personal tragedy and national economic loss can become a relatively smaller part of the road experience ■

This article is based on the data and views presented at the IRF 2nd International Regional Conference in New Delhi, Road Safety - Design, Construction and Operation of Roads (5-6 October, 2007).

Growth in morbidity and mortality: Road traffic fatalities in India





The Woodrow Wilson Bridge

A profile of the 2007 GRAA winning project in the Programme Management Category

Replacing the Woodrow Wilson Bridge had long been a top transportation priority in the US capital region. To reduce accidents and remove one of the worst bottlenecks along the east coast, the project is replacing almost 12% of the Capital Beltway (I-95/495) in Washington DC with a new Potomac River crossing and four new interchanges. These improvements were critically needed, as a bridge designed to carry 75,000 trips per day in 1961 was carrying nearly 200,000 and would be clogged with 300,000 by 2020.

One of the United States' largest active public works projects, the $2.47 billion bridge replacement and interchange project is demonstrating that a mega-project can be kept on schedule and on budget, while protecting the natural environment and respecting neighbouring communities. This success is largely attributed to effective programme management.

Programme management is best exemplified through the daily project coordination that takes place. Managers track and sequence 35 different major construction contracts, which at peak collectively placed about US$1 million of work each day. Regular partnering sessions kept each contract working in harmony, and monthly corridor coordination meetings resolved the interfaces. Effective project controls and scheduling were critical to successfully managing this massive construction programme.

The programme management team proved time and again its ability to find creative solutions to potential show-stoppers. The foremost example was the decision to re-bid the bridge's superstructure as three separate contracts rather than a single contract, resulting in increased competition, less contractor risk, and lower bids.

The team was committed to protecting the natural environment throughout construction of the Wilson Bridge Project. Using part of the old Wilson Bridge as an access trestle avoided disturbing six acres of river bottom. A contained air bubble curtain system protected fish from shock waves during pile-driving operations. These environmental efforts often were critical to keeping the project on track.

The new Woodrow Wilson Bridge

> **"This Global Road Achievement Award means a lot for the Woodrow Wilson Bridge project"**
>
> **Robert D. Douglass, P.E.**

The project's proactive communications programme kept travellers and neighbours informed of project developments. Keeping commuters and other travellers moving through the construction zone was a top priority: it has been achieved through an extensive incident and congestion management programme combined with paid and earned coverage in the local media.

"This Global Road Achievement Award means a lot for the Woodrow Wilson Bridge project," said Robert D. Douglass, P.E., project director for the Maryland State Highway Administration. "Our Programme Management team has hosted visitors from over 15 countries, including China, Kuwait, El Salvador, and a delegation from Eastern Europe. We have learned from them, and I'd like to think they

have learned from us. Recognising successful projects in an international forum like the IRF is a great way to promote development of better, safer road networks throughout the world."

Ronaldo T. Nicholson, P.E., Project Manager for the Virginia Department of Transportation, said: "The Woodrow Wilson Bridge project is a huge programme with lots of moving parts that have worked together seamlessly. My agency looks forward to taking the programme management ideals that have been practised here and applying them to the multi-mega project environment that is about to hit the Northern Virginia region."

The Woodrow Wilson Bridge Project is sponsored jointly by the Federal Highway Administration, Virginia Department of Transportation, Maryland State Highway Administration and the District of Columbia Department of Transportation. The project is supported by a general engineering consultant team, a joint venture of PB Americas, URS and Rummel, Klepper & Kahl. ■

Christophe Nicodème at helm of ERF

José Papí leaves after ten years' service with the road organisation

After ten years as Secretary General of the European Road Federation (ERF), Mr José Papí has decided to pursue new professional challenges. His successor, Mr Christophe Nicodème, became Director General on 7 January, 2008.

Mr Nicodème has been active in the road sector for more than 17 years, and he served on the ERF Executive Committee during 2002-2007 (with two years as Vice-President). He brings his extensive experience, dynamism and enthusiasm to the post, pledging to continue in the footsteps of his predecessor to raise awareness of road transport issues at all levels in Europe and in maintaining the ERF's position as one of the leading road transport associations in Brussels.

Christophe Nicodème

Mr Papí will assist the new Director General and the Executive Committee under the title of Senior Counsellor, but with no executive responsibility. Within his mandate he will assist in the definition of the annual work plan and provide guidance on matters of strategic importance.

For additional information please contact ERF, the Brussels Programme Centre of the International Road Federation (IRF) at info@irfnet.eu or visit the website www.irfnet.eu.

IRF Opens 2008 GRAA Competition

IRF has officially opened the 2008 Global Road Achievement Award Competition GRAA Competition. Started in 2000, this worldwide programme seeks to honour and recognise road projects throughout the world that demonstrate excellence and innovation.

Since then, more than 60 projects from two dozen countries have been recognised for their contributions to the advancement of road development worldwide. The competition is open to all organisations involved in the road industry, and there is no limit to the number of entries an organisation may submit.

Entries are open to projects that may have been recognised in other award programmes, provided they have not been recognised in an IRF GRAA competition during any previous year.

This year, the IRF will be accepting awards submissions in each of the following categories:

- Research.
- Design.
- Innovative Finance.
- Technology, Equipment and Manufacturing.
- Advocacy and Lobbying.
- Environmental Mitigation.
- Construction Methodology.
- Maintenance Management.
- Safety.
- Traffic Management and Intelligent Transportation Systems.
- Programme Management.
- Quality Management.

Applications must be received by IRF no later than 30 May, 2008.

For more information and/or a copy of the 2008 application, please visit www.irfnews.org or contact Magid Elabyad at +1 703 535 1001.

2008 IRF Dates for your Diary

FEBRUARY-MARCH

28 February-1 March: ***Regional Workshop on Contracting Performance-Based Management and Maintenance of Roads (PMMR)***
Arusha, Tanzania

APRIL

1-4: ***Intertraffic Amsterdam***
Amsterdam, Netherlands

21-25: ***Transport Research Arena TRA 2008***
Ljubljana, Slovenia

MAY

11-14: ***Reducing Accidents, Saving Lives - Conference on Road Surfaces***
Cheltenham, U.K.

OCTOBER

3-4: ***IRF Regional Conference on Mobility and Road Safety***
New Delhi, India

NOVEMBER

27-29: ***Asphaltica Urbania***
Padova, Italy