SAFE ROADS FOR ALL

A POST-2015 AGENDA FOR HEALTH AND DEVELOPMENT

MAKE ROADS SAFE
The Campaign for Global Road Safety

Commission for
Global Road Safety

SAFE ROADS FOR ALL

A POST-2015 AGENDA FOR HEALTH AND DEVELOPMENT

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MAKE ROADS SAFE | SAFE ROADS FOR ALL

Foreword: Rt. Hon. Lord Robertson of Port Ellen

Over the next two years the international community will decide on the priorities that will replace the Millennium Development Goals and define the post-2015 sustainable development agenda. Road traffic injury prevention must be part of this framework.

As highlighted in the recently published Global Burden of Disease 2010 study – funded by the Bill & Melinda Gates Foundation – road crashes are the leading cause of death for young people. For boys and men, injuries sustained while travelling on our roads and streets are, next to HIV/AIDS, the leading killer from age 5 to 40. Road crashes are a global epidemic, a preventable plague on the young.

We are now two years into the UN Decade of Action for Road Safety 2011-2020. The launch of the Decade, and the ten year advocacy campaign that preceded it, have succeeded in increasing awareness of road safety amongst some low- and middle-income governments and international institutions. As the World Health Organization's new Global Status Report on Road Safety has found, there has been a sustained effort by some countries to introduce new road traffic laws and road fatality reduction targets. But progress is too slow. Even today only 28 countries have comprehensive legislation for major causes of road injury such as speeding, drink driving or failing to use seatbelts or motorcycle helmets. There has been no overall reduction in road fatalities and many countries, including some leading economies, are still in denial about the extent of their road safety problem.

International financial and technical assistance to help governments of low- and middle-income countries to develop their capacity and to catalyse road safety programmes is urgently needed. Funding has been far below the level our Commission has recommended. The response of bilateral donors, multilateral institutions, the private sector and large philanthropies has, with a few honourable exceptions, been miserably inadequate.

Visionary leadership is needed. The international diplomacy of the Russian Federation, building on strong foundations laid by the Sultanate of Oman, has been and will continue to be crucial in galvanising international action. Russia hosted the First Global Ministerial Conference on Road Safety, sponsored the Decade of Action resolution at the United Nations, and argued for road safety to be included at Rio+20. Recently others have taken up the call, and President Dilma Roussef of Brazil highlighted the impact of road deaths on her country in her major speech to the UN's opening session in 2012.

These efforts should now be redoubled and focused on delivering practical action in the context of the post-2015 agenda. The 'Rio+20' UN Conference on Sustainable Development, the launch-pad for the current debate on future 'Sustainable Development Goals', recognised the importance of road safety in contributing to wider environmental and developmental objectives. It is now well past time for road traffic injury prevention to be included in the mainstream of efforts to improve global health, combat climate change and tackle inequality and poverty. The absence of road safety is one connecting symptom of all these 21st century challenges. Now, in the post-2015 debate, we have an unprecedented opportunity to build a wide and strong coalition committed to working together to make roads safe for all.

Rt. Hon. Lord Robertson of Port Ellen
Chairman, Commission for Global Road Safety

The Mandela family is leading The Long Short Walk campaign calling for road safety to be included in the post-2015 development agenda. Facing page: Nelson Mandela with Zenani Mandela, who died in a road crash in 2010.

The world I want: Zoleka Mandela

My generation has an opportunity to make a difference. It's all too easy to be cynical, to say that the big problems in the world like poverty and hunger are just too difficult to solve. You hear the criticism quite often. That it's all just a lot of words, too much hot air, and little in the way of meaningful action. The critics should listen to my grandfather. I remember him talking a few years ago about the need to come together and support the Millennium Development Goals. He said: "Like slavery and apartheid, poverty is not natural. It is man-made and it can be overcome and eradicated by the actions of human beings." And over the last few years, we've seen just what can be achieved when the international community comes together – the progress that has been made in tackling extreme poverty and hunger and the action on killer diseases like Malaria. We know that much more needs to be done. As the world starts planning for post-2015, we are at a critical point where we can take stock, and take the agenda forward where we've come up short.

As my grandfather urged, our efforts should be focused on the global problems that we have the duty and the ability to solve. Sometimes, people wonder why there should be such a focus on other people's problems and on other people's lives in far-away places. Perhaps they forget that we live in one world, and that it's a world we are building for our children and for their future.

And we must ask the international community to keep this at the forefront of their minds when they are putting together the big agenda for international development for the years ahead. There are certain issues that we must not neglect as we build a better future. Road injury is one of them. It's a question of the future I want. Road injury is one of those man-made problems that we have the ability to solve, and it is a major threat to our future - taking the lives of more young people than anything else. It is the number one killer of 15-29 year-olds worldwide. And it is those living in the developing world who are suffering the most.

In my country like other fast developing nations, I see the increasing numbers of cars on the roads, the new roads being built every day and large numbers of people who have never lived in such an environment. And we are facing unacceptable numbers of deaths and injuries in what should be young, vibrant cities, full of hope for the future. We should be nurturing and protecting this future, not contributing to the numbers of casualties by neglecting road safety.

It does not need to be this way. We know exactly how to prevent road deaths and injuries. We have the answers, but too often the solutions are not being put in place. Our governments are responsible for road safety, but they clearly need help. And as with the other development issues, and the man-made problems, help and support must come from the international community if the solutions are to work. In the years after 2015, more countries will move along the path that South Africa has been on, increasing the pace of development. But there will be a high price to pay, if the life-saving measures that are needed to protect people on the roads aren't part of our countries' development policies.

I lost my daughter, Zenani when she was only 13. In a matter of seconds, her world and her future was destroyed. And with her, a huge part of my world was gone too. For the sake of all our children, for our world and the future we want, we must make sure we include road safety this time round.

Zoleka Mandela

Executive summary

- Safe mobility should be a basic right for all. Like access to education, supply of clean water and sanitation, and provision of health care, safe road transport must be a key foundation stone of modern society. Yet many of the roads that are used by pedestrians in middle- and low-income countries have no adequate footpath; car companies are supplying millions of their customers in emerging markets with vehicles that would fail to pass the United Nation's basic crash test standards design vehicles; governments fail to enforce speed limits, drink-driving, seat belt use or motorcycle helmet wearing. Every day hundreds of thousands of school children commute to and from school along dangerous roads or on badly maintained, overcrowded buses. Inevitably, daily, there are thousands of casualties.

- Significant progress has been made in recent years. The campaign for, and launch of, the UN Decade of Action for Road Safety has raised awareness of road injury to an unprecedented level. With leadership from the Russian Federation, more than 100 governments committed at the UN to support the goal of the Decade of Action: to stabilise and reduce global road fatalities by 2020. Eighty-eight countries, with a total population of almost 1.4 billion, reduced the number of deaths on their roads in the four years to 2010. According to the World Health Organization, in the years 2008-2011 thirty-five countries, with a total population of 680 million, introduced new road safety laws covering key causes of injury such as drink-driving, speed and non-use of motorcycle helmets and seat belts.

- But the continuing serious impact of road traffic injury on global mortality and disability has recently been confirmed in two major new studies. Both the World Health Organization's Global Status Report on Road Safety 2013 and the Global Burden of Disease (GBD) 2010 study, published in December 2012 by the Institute for Health Metrics and Evaluation, estimate the overall number of annual deaths on the world's roads at almost 1.3 million, with considerable variations being evident between high income and lower income countries and regions, and between different age groups within regions.

- Road traffic injury is a leading cause of death and disability for young people, everywhere. Young men are most at risk. According to the GBD study, road injury is the world's leading cause of death for boys and men aged 10-29. Between the ages of 30-40 it is the second biggest killer of men overall, after HIV/AIDS. For women, road injury is between third (during teenage years) and fifth leading cause of death consistently from the age of 5 to 40. Road injury is a young person's plague, and constitutes a growing epidemic in precisely the regions in which this most at-risk youth demographic is increasing dramatically in number.

- The economic cost of road injury is immense. Yet even high income countries with good road safety records are failing to account for and recognise all the costs – particularly of long-term medical care for those who are disabled – that result from a road crash. Transparent and accurate injury data collection and integration of transport, police and health functions in a single thread of accountability, would enable policymakers to develop a fuller understanding of the costs of road injury and the investment benefits of road safety. For example, in the State of Victoria in Australia, the costs of bodily injury are paid directly by a State Traffic Accident Commission (TAC). This provides a clear business case for investing in road safety to reduce future claims.

- To tackle this epidemic countries must do more to prioritise road safety, and to implement into their national policy the 'Safe System' approach outlined in the Global Plan of the Decade. At the centre of the safe system is an overarching focus on speed management that ensures the safety of the people who live and move around roadsides, as well as the safety of the road users. Infrastructure must be designed to meet the needs of all users at the appropriate speed for the road. Vehicles must provide safety for those within and outside the vehicle and road user behaviour and enforcement must reflect the potential fatal outcomes of non-compliance. By adopting a speed-aware approach which puts people first, and places the safety and development of children and young people as the starting point for transportation and urban policy, we can also have a positive impact on other connected issues of social policy, such as climate change; air pollution; and combating non-communicable diseases and the obesity crisis by encouraging walking and cycling.

- Catalytic funding and technical assistance to support the development of national road safety capacity in middle- and low-income countries is vital. Yet we face a situation in which the pledged international funding to support the Decade of Action will be largely exhausted by 2015. We urgently need to find new sources of financial support for the second half of the Decade. 2015 is a crunch year for another reason – it will be the launch date for new Sustainable Development Goals to replace the Millennium Development Goals. Road injury prevention has been neglected at least in part because it is outside the priorities set for the MDGs. We cannot afford to be left behind again. Over the next two years we must make a compelling case for road safety and road transport to be included in the new post-2015 framework of international cooperation on sustainable development.

KEY RECOMMENDATIONS

01

Road safety must be recognised and included in the post-2015 Sustainable Development Goals framework. This should include a specific global fatality reduction goal of 50% by 2030, as measured from the 2007-2010 baseline data provided by WHO's Global Status Report on Road Safety 2013. This would be consistent with the current goal of the UN Decade of Action for Road Safety, to 'stabilise and then reduce' global road traffic fatalities by 2020. Integrating such a goal within the SDGs would confirm the commitment of the 100+ countries which co-sponsored the Decade of Action goal in the UN General Assembly. It would build on and expand recent achievements in global road safety advocacy and connect the 'Safe System' approach of the UN Decade of Action Global Plan to the wider agenda of sustainable transport and liveable and healthier cities.

02

Speed management is at the heart of the 'Safe System' approach. Yet the WHO Global Status Report 2013 shows that only 59 countries have urban speed limits below 50kph and allow local authorities to further reduce speed limits where pedestrians and cyclists are present. Only 26 countries rate their own speed enforcement as 'good'. The International Road Assessment Programme has found that more than 80% of roads in low- and middle–income countries where pedestrians are present carry traffic at 40km/hr or more and have no footpaths. There must be a concerted effort to link speed limits to the physical protection afforded to road users by road and vehicle design. An early example should be set by the Multilateral Development Banks by ensuring that desired design speeds stated for a new or upgraded road are subject to achieving minimum stated safety ratings. The MDBs should commit now to having such a policy in place for all road projects by 2015.

03

Governments should provide strong commitment to a mid-term Ministerial Conference for the Decade of Action in 2015 and participate to review their progress since the First Ministerial Conference on Global Road Safety hosted by the Russian Federation in Moscow in 2009 and the launch of the Decade of Action in 2011. The 2015 Ministerial Conference should address the serious lack of catalytic funding for global road safety and propose specific practical measures and partnerships for integrating road traffic injury prevention within the post-2015 development framework.

04

We welcome the commitment of Ban Ki-moon, the UN Secretary General, to include sustainable transport as a priority for his 2012-2017 'Action Agenda', and we recommend that the issue of regional support for transport and road safety, and how transport policy could be organised to have a stronger voice within the UN, should be high on the agenda of his working group.

05

We further recommend that the Secretary General should establish a distinct High Level Group to review progress on the implementation of the Global Plan for the Decade of Action 2011-2020. The remit of such a group should include a review of global funding for the Decade of Action with a view to making recommendations on the catalytic resources needed to promote national and regional road injury reduction programmes and to prepare a report and recommendations for the mid-term Ministerial Review meeting of the Decade of Action to be held in 2015.

06

In advance of the mid-term Ministerial Conference we would encourage governments to work with the UN Road Safety Collaboration and the UN Regional Commissions to identify areas of practical road safety collaboration. For example, at regional level targets should be developed consistent with the Decade of Action's Global Plan. These could include seat belt and helmet wearing rates; minimum safety design performance for road infrastructure; setting and enforcing Safe System speed management policies; application of UN vehicle safety regulations and support for regional new car assessment programmes. Such an initiative, in every world region, could help to stimulate national activity, ignite national pride and deliver national results. But such an effort needs funding and technical support.

07

Catalytic funding for the first years of the Decade of Action has been grossly inadequate, and far below the level recommended in our 2006 report. There have as yet been no new pledges for the period after 2015, so catalytic activity for the second half of the Decade of Action is currently unfunded. The traditional donor governments, and new ones, should recognise the growing consensus that road traffic injury is an essential element of the overall international sustainable development framework and must redouble their efforts to engage and invest in road safety. Major public health philanthropies must follow the evidence of the global burden of disease and include road injury prevention in their portfolios.

08

At the national level, governments need agencies that can lead action across the many stakeholders in road safety. The effectiveness of these institutions is often constrained by lack of funding. There are many examples of countries that have lead agencies funded by levies on road taxation but there is no comparative research available on best practice which could particularly guide newly motorising countries. We recommend that a comparative study is carried out globally to review the different institutions funded by levies on road taxation or insurance and report on best practice.

09

With public finance severely constrained in many nations worldwide, we recommend developing trials of innovative financial instruments such as 'social impact bonds' which may have the potential to prevent high return safety investment from being crowded out of public programmes. This could potentially help to bridge the gap between those sectors of government, business and the community that benefit from less road trauma (e.g. health, insurance, legal, business) and those with the solutions (e.g. road agencies, policing, education and vehicle technologies).

10

A major new international funding initiative is also needed. It is time for companies in the automotive and road mobility sectors to step up, to meet their moral and social responsibility by supporting a new innovative financing initiative for the Decade of Action. Car and truck manufacturers, insurance companies, fuel companies, car rental companies and automotive parts and service providers should all make a contribution by joining an innovative financing initiative which encourages their customers to make a small donation at point of sale to support global road injury prevention. If successful, this common effort would provide significant funding to catalyse country level implementation of the Global Plan for the Decade of Action for Road Safety.

1 THE DECADE OF ACTION FOR ROAD SAFETY:

FROM POLICY PROGRESS TO PRACTICAL DELIVERY

The Decade of Action provides a strong platform, but future progress depends on ramping up political and financial commitment.

Safe mobility should be a basic expectation of any society. Like access to education, supply of clean water and sanitation, and provision of health care, safe road transport must be a key foundation stone of the 'social protection floor' - the minimum level of social provision that makes life civilised. Yet more than 80% of the roads that are used by pedestrians in middle and low income countries have no footpath; car companies design vehicles with a higher level of safety for European consumers than for South Americans; governments fail to enforce speed limits or motorcycle helmet wearing. Every day hundreds of thousands of school children commute to and from school along dangerous roads or on badly maintained, overcrowded buses. Inevitably, daily, there are thousands of casualties.

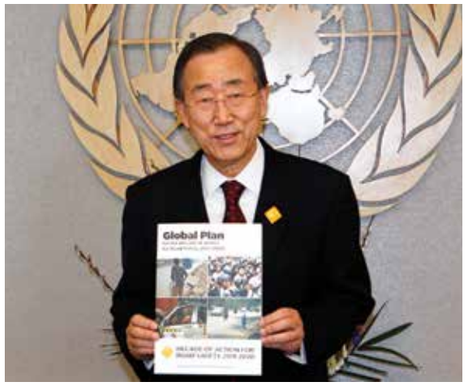
Today, in the twenty-first century, we consider ourselves to live in advanced and modern societies. Satellites beam images across the Earth in milliseconds, there are man-made robots on Mars, and polio is on the verge of being eradicated. But somehow we still accept that 3,500 people will lose their lives in a road crash every single day.

Yet significant progress has been made in recent years. Since 2001 a coalition of governments, UN agencies, development banks, philanthropies and NGOs has worked on a common effort to establish road injury prevention on the international agenda. Since the first UN General Assembly resolution on 'the global road safety crisis' was introduced by the Sultanate of Oman in 2003, steady advances have been made.

In 2004, following publication of the World Report on Road Traffic Injury Prevention, the World Health Organization and the UN regional commissions were mandated by the UN General Assembly to lead a new UN Road Safety Collaboration[1]. In 2006 our Commission proposed a first ever Global Ministerial Conference on Road Safety[2]. In 2008 the Russian Federation generously offered to host such a meeting, an offer accepted by the UN in a new Resolution[3]. In 2009, the Moscow Ministerial Conference brought together more

BOX 1

Global Plan of the UN Decade of Action for Road Safety



The Goal of the Decade of Action, mandated by the United Nations and endorsed by more than a hundred governments, is to 'stabilise and reduce' the forecast level of global road fatalities by 2020. Meeting this goal could save up to five million lives, and prevent up to 50 million serious injuries.

To support the achievement of this ambitious objective, the United Nations Road Safety Collaboration (UNRSC) has developed a Global Plan for the Decade of Action, in consultation with stakeholders around the world, which identifies key capacity building and injury prevention measures in each of five categories or 'pillars', an approach recommended in our Commission's 2009 report. Taken together, these pillars represent the holistic 'Safe System' approach to road safety. Each pillar has a set of indicators, primarily at national level, to measure progress, with the WHO Global Status Report on Road Safety 2013 providing a baseline. The UNRSC has established project groups for each of the pillars. These groups meet at least twice a year to share information, build networks and coordinate specific activities at the international level.

The Five Pillars of the Global Plan are:

1. **Road Safety Management: strengthening institutional and operational capacity to achieve national road safety objectives; supporting stronger governance and policing;**

Core indicators include:

- Number of countries with a clearly empowered agency leading road safety;
- Number of countries with a national strategy and time-based road safety targets;
- Number of countries which have adhered to United Nations road safety related agreements and conventions.

2. **Safe roads and mobility: improving the planning, design, construction and operation of road networks to ensure safety for all users; encouraging investment in sustainable modes of transport;**

Core indicators include:

- Number of countries with a target to eliminate high-risk roads by 2020;
- Number of countries with systematic safety audit, safety impact and/or road assessment policies and practices in place;
- Number of countries that have adopted sustainable urban mobility policies.

3. **Safer vehicles: promoting crashworthiness and empowering consumers with safety information; accelerating introduction and use of proven safety technologies;**

Core indicators include:

- Number of countries who participate in the UN World Forum for Harmonization of Vehicle Regulations and apply relevant standards;
- Number of countries that participate in NCAP ("New Car Assessment") programmes;
- Number of countries enacting laws that prohibit the use of vehicles without seat belts (front-and rear).

4. **Safe road users: putting vulnerable road users, like pedestrians and cyclists, first in policy; promoting use of seat belts and crash helmets; tackling drink driving; setting and enforcing effective speed limits; improving driver training;**

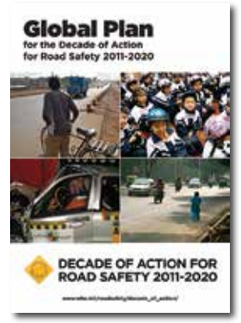
Core indicators include:

- Number of countries with speed limits appropriate to the type of road (urban, rural, highway);
- Number of countries with blood alcohol concentration limits less than or equal to 0.05 g/dl;
- Number of countries with comprehensive motorcycle helmet and seat belt laws.

5. **Post-crash response: improving emergency response and trauma care; supporting rehabilitation and care of road injury victims; providing advice, support and legal redress for victims and their families; encouraging third party insurance schemes to finance rehabilitation.**

Core indicators include:

- Number of countries that require third-party insurance schemes for all drivers;
- Number of countries with one national emergency access number;
- Number of countries with designated trauma care centres.



For more information on the Global Plan please see www.decadeofaction.org

BOX 2

Launch of the Decade of Action

From Auckland, New Zealand to Mexico City more than 400 events were held right across the world on 11th May 2011 to launch the UN Decade of Action for Road Safety. World leaders including the Presidents of Russia and Mexico and the Prime Ministers of Australia and the United Kingdom endorsed the launch. Many senior government leaders and ministers participated in events.

Speaking at the launch in New York City, UN Secretary General Ban Ki-moon said: "The launch today of the Decade of Action for Road Safety can help all countries drive along the path to a more secure future…Now we need to move this campaign into high gear and steer our world to safer roads ahead".

UN Secretary General Ban Ki-moon launches the Decade of Action in New York City, together with the Mayor of New York City, and road safety philanthropist, Michael Bloomberg.

Julia Gillard, Prime Minister of Australia: "With coordinated global action through the UN Decade of Action for Road Safety, let us ensure that the ten years ahead mark a turning point for global road safety".

Global Road Safety Ambassador Michelle Yeoh: "I strongly believe that this global Decade of Action can also be China's decade of progress in road safety".

Rt. Hon. David Cameron MP Prime Minister of the UK "The UN Decade of Action for Road Safety is a vital opportunity to implement the policies that can make road traffic safer and more sustainable".

President Dmitry Medvedev of Russia: "I'm sure that the UN Decade of Action initiated by Russia will help us to reduce road traffic injuries and improve global road safety".

President Felipe Calderón of Mexico: "In Mexico, we will strive to reach the world-wide target of reducing road deaths by 50% in the next 10 years".

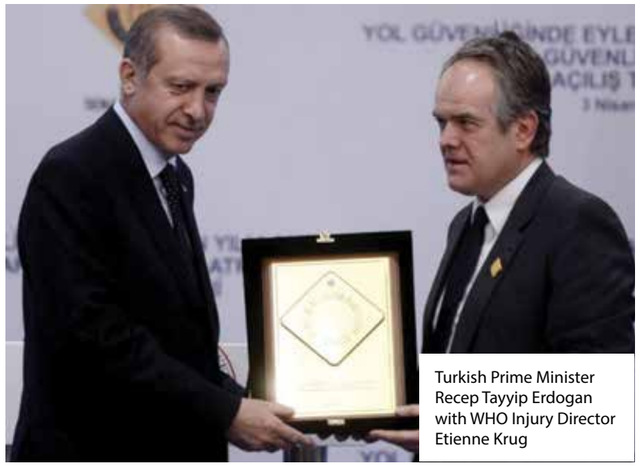
than eighty ministers and 1,500 delegates from over 140 countries and pledged support for our Commission's proposal for a 'Decade of Action for Road Safety'.[4]

In 2010 the UN General Assembly, led by the Russian Federation, adopted a new Resolution co-sponsored by more than 100 countries proclaiming the UN Decade of Action, with a goal to 'stabilise and reduce' road traffic deaths globally by 2020[5]. A Global Plan for the Decade (see box 1) was agreed by governments, institutions including the UN regional commissions and the multilateral development banks, civil society organisations and private sector companies working together in the UN Road Safety Collaboration[6]. A further UN Resolution in 2012 re-affirmed support for the Decade of Action and urged inclusion of road safety in the international development agenda[7]. At the Rio+20 UN Conference on Sustainable Development in June 2012, governments - for the first time in such a forum - recognised the need for "access to environmentally sound, safe and affordable transportation as a means to improve social equity, health, resilience of cities…", and stated that "…we take into account road safety as part of our efforts to achieve sustainable development".[8]

Millions of people have benefited from stronger road safety laws

The ten year advocacy campaign to secure the UN Decade of Action for Road Safety, and the high profile launch of the Decade in May 2011 (see box 2) , with more than four hundred launch events in over a hundred countries worldwide, have also resulted in greater awareness of road injury and stimulated action within some of the countries most affected. According to the World Health Organization, in the years 2008-2011 thirty-five countries, with a total population of 680 million, introduced new road safety laws covering key causes of injury such as drink-driving, speed and non-use of motorcycle helmets and seat belts[9].

HRH Prince Michael of Kent presents the Decade of Action Award to Michael Bloomberg



Turkish Prime Minister Recep Tayyip Erdogan with WHO Injury Director Etienne Krug

President Medvedev of the Russian Federation opens the first Global Ministerial Conference on Road Safety

President Dilma Rousseff of Brazil pledges her country's support for the Decade of Action at the UN General Assembly

In response to the Decade of Action, countries from Cambodia to Mexico, the Philippines to the Russian Federation; and Chile to China have implemented actions including national plans with targets for reducing road casualties, new legislation or increased enforcement. Bloomberg Philanthropies, the world's leading road safety donor, estimates that – in the ten countries in which its Global Road Safety Program operates – 1.6 billion people have been covered by strengthened road safety laws since the Decade of Action began[10] (see box 3). Another philanthropy, the FIA Foundation, has made Decade-long 'Commitments' at the Clinton Global Initiative totalling €30 million, funding safe road assessments, independent vehicle crash testing and catalytic activities focusing on road user behaviour (see box 4).

Multilateral institutions are also now paying closer attention to road safety. In April 2011, to mark the launch of the Decade of Action, the World Bank and the six major regional development banks announced the 'Multilateral Development Bank Road Safety Initiative', with a high profile event hosted by the then World Bank President Robert Zoellick, who described the road injury epidemic as a 'terrible tragedy'. "Unless well-targeted measures are taken", Mr Zoellick said, "there will be an escalating death toll on the roads in poor countries…We must make road safety a more urgent priority in the development assistance provided by multilateral development banks for road projects."[11] More recently, the new President of the World Bank, Dr Jim Yong Kim, has said of road safety: "It's a huge concern for us. It was not on our radar screen in public health. Because HIV/AIDS, TB, Malaria, which are terribly important problems, those were 'sexier' problems…and road safety was not. This is an area we have to think about".[12]

Funding allocations and practical delivery on the ground have been slow to match the positive rhetoric. But there are some tantalising examples of what can be achieved when the World Bank takes a leadership role. In Argentina a US $50 million stand-alone project is delivering (see box 5) and a further project may follow[13], while in India, development banks have included multi-million dollar safety components within some road loans and in China a $200 million stand-alone 'safe and green' urban transport project is under preparation.

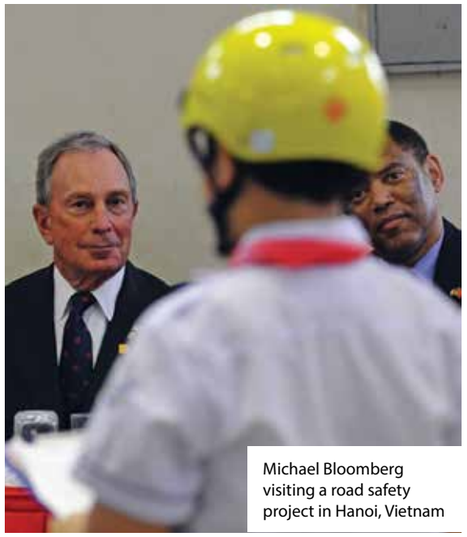
Challenge now is to translate momentum into funded programmes

So we have built a strong platform. We have a mandate from the UN including a goal, endorsed by more than 100 governments, to reduce global road deaths by 2020. We have a blueprint for action, as set out in the Global Plan for the Decade. We have a strong portfolio of practical interventions which are proven to reduce road traffic injury. The challenge now facing us is how to translate increased high level awareness and goodwill towards road injury prevention into self-sustained, adequately funded, politically endorsed, locally generated programmes in low- and middle-income countries. Initially, where necessary, these will need to be backed with policy and technical advice – and funding support - by lending institutions such as the World Bank, public health institutions such as the World Health Organization, and bilateral and philanthropic donors. There are isolated examples where this is already being achieved at a relatively small scale, with encouraging results.

Yet we face a situation in which the pledged international funding to support the Decade of Action will be largely exhausted by 2015. We

BOX 3

The Bloomberg Global Road Safety Program



Michael Bloomberg visiting a road safety project in Hanoi, Vietnam

In 2009 Bloomberg Philanthropies announced a $125 million, five year programme to support road safety in 10 focus countries: Brazil, Cambodia, China, Egypt, India, Kenya, Mexico, Russia, Turkey and Vietnam. Working with the governments of these countries, and with partners including the Association for Safe International Road Safety (ASIRT), EMBARQ, the Global Road Safety Partnership, Johns Hopkins Bloomberg School of Public Health the World Bank Global Road Safety Facility and the World Health Organization (WHO), Bloomberg Philanthropies, the family foundation of New York Mayor Michael Bloomberg, has succeeded in demonstrating the potential of road safety investment.

In January 2013 Bloomberg Philanthropies issued a mid-way report highlighting some of the achievements of its Global Road Safety Program. As a result of its efforts since 2010, 1.6 billion people across the ten focus countries are now covered by new or strengthened road safety laws. There has been significant work on capacity development and training, with more than 13,000 police and public health officials trained on road safety interventions including enforcement, trauma response and data collection. Support for the International Road Assessment Programme, in projects coordinated through the World Bank's Global Road Safety Facility resulted in 5,500 miles of high-risk roads being assessed and $440 million committed by governments to make road improvements. This included a project in India to implement a minimum 'three-star' safety rating for all road users in the state of Karnataka.

The Bloomberg programme has also enabled 12 media campaigns reaching 65 million people to promote road user behaviour messages, and the philanthropy has claimed some impressive results. Seat-belt usage in the region of Afyon, Turkey, increased from 4% in 2011 to 49% in 2012. Following a strong social marketing campaign and increased police enforcement, speeding rates decreased from 32% in 2011 to 9% in 2012 in Dalian, China, and from 47% in 2011 to 33% in 2012 in Lipetsk, Russia. In Phnom Penh, Cambodia, a campaign targeting drink driving saw levels of non-compliance fall from 10% in 2010 to nearly 0% in 2012. In Kenya, the Bureau of Standards adopted a new motorcycle helmet standard following advocacy by partners in the Program.

Commenting on the impact of his philanthropic investment, Michael Bloomberg said: "The success we have had through our road safety program is saving lives around the world, but there is still more work to be done. We look forward to spreading our efforts and contributing to the Decade of Action to reduce preventable road traffic deaths and injuries."

BOX 4

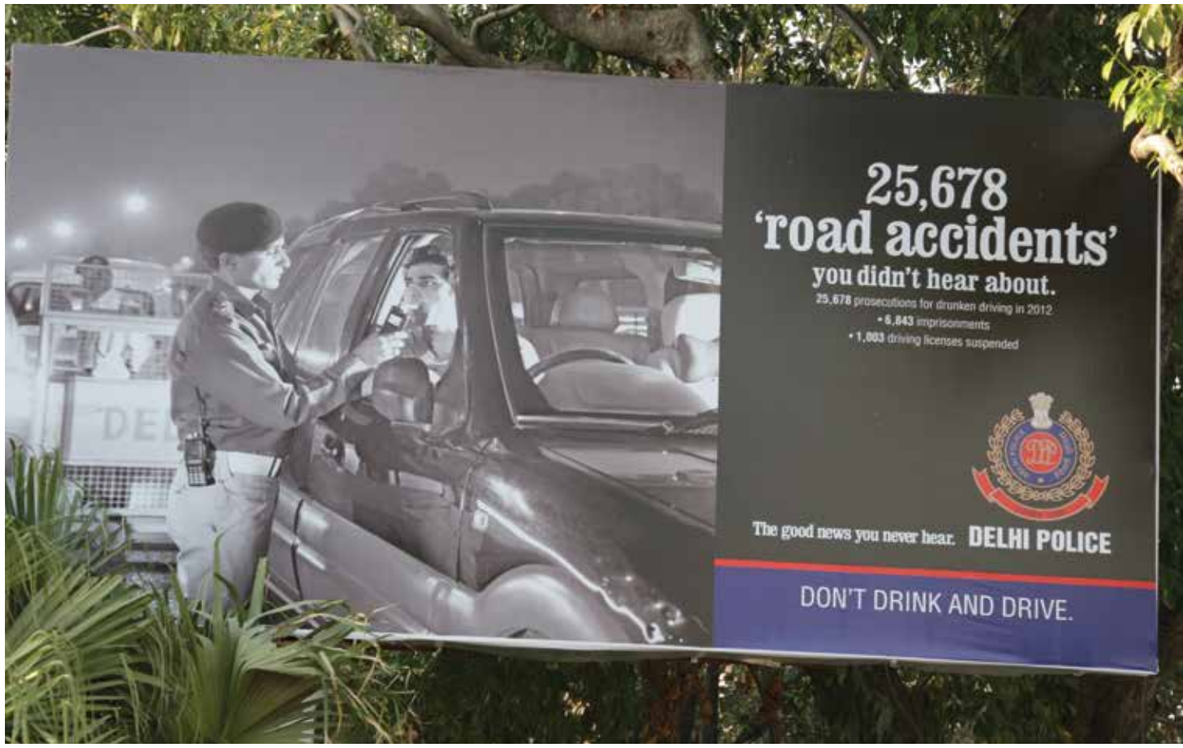
FIA Foundation and the Clinton Global Initiative

Former US President Bill Clinton with Global Road Safety Ambassador Michelle Yeoh and FIA Foundation Director General David Ward

The Clinton Global Initiative (CGI), established by former US President Bill Clinton, brings together philanthropies, governments, companies and development and public health experts to collaborate on major social and health issues through 'Commitments'. The FIA Foundation, a UK-based philanthropy, has made three 10 year CGI Commitments totalling €30 million. The FIA Foundation's commitments pledge support for key initiatives in support of the Decade of Action Global Plan.

The commitments cover infrastructure safety through a grant to the International Road Assessment Programme (iRAP), which undertakes assessments and intervention plans for high risk roads in more than eighty countries; efforts to improve vehicle safety in decade-long support to Global NCAP, which supports independent new car assessment programmes in emerging markets; and capacity building projects to develop road user behaviour, through the Foundation's partnership with the FIA and its automobile clubs across the world, as well as support for innovative NGO partners working on child safety in Asia and Latin America.

President Clinton has twice personally highlighted the FIA Foundation's work at his annual CGI meeting in New York. In 2010 he joined Mayor Michael Bloomberg, Make Roads Safe campaign ambassador Michelle Yeoh and representatives of NGOs including iRAP, Asia Injury Prevention Foundation and the Gonzalo Rodriguez Foundation to unveil the symbol of the Decade of Action. In 2012 he reported on progress in the FIA Foundation's road user behaviour commitment, joined on stage by Michelle Yeoh. This engagement with the Clinton Global Initiative has helped to raise awareness of road injury at one of the most important annual gatherings of international development policymakers.



need to find new sources of financial support for the second half of the Decade. But it will not happen on the scale commensurate with the health burden until - as Dr Kim pointed out - the public health and sustainable development policy communities, which guide and lead international consensus on which interventions are 'sexier' and therefore worthy of a high priority in national policy, integrate road traffic injury prevention as an essential component of sustainable development.

So 2015 is a crunch year for another reason – it should be the launch date for new Sustainable Development Goals to replace the Millennium Development Goals. Road traffic injury prevention has been neglected at least in part because it is outside the priorities set for the MDGs. We cannot afford to be left behind again. Over the next two years we must make a compelling case for road safety and road transport to be included in the new post-2015 framework of international cooperation on sustainable development. To win this argument we must do three things: one, articulate the damage that is being done, to people and to societies, by road traffic injury; two, show the essential inter-connection of road traffic injury prevention with other public policy priorities including climate change, sustainable urbanisation, better air quality and provision of health and education services, in short the post-2015 development agenda; and three, set out a practical and achievable vision of safe roads for all – beginning with our children and young people – and a proposal for how this can be funded. This is the aim of our report.

■ BOX 5

Delivering the Safe System approach in Argentina

In Argentina the World Bank has provided a stand-alone road safety loan and worked in partnership with the lead agency for road safety in an innovative project that could provide a powerful model for other countries.

In 2008 an estimated 5,760 people died from road crashes in Argentina and over 95,000 were injured, compared with an estimated 3,200 fatalities in 2002. Mounting social and political disquiet about escalating road traffic injuries and growing demand for improved governance and systematic action led in April 2008 to the establishment of the National Road Safety Agency (Agencia Nacional de Seguridad Vial [ANSV]) within the Ministry of Interior.

ANSV's mission is to reduce the rate of road deaths across the nation through the promotion, coordination, control and monitoring of national and international road safety policies. It has six main directorates: Driver Licenses and Traffic Records; Interjurisdictional Coordination; National Road Observatory; General Administration; Road Safety Training and Campaigns; and Legal and Judicial Affairs.

Soon after establishing the ANSV the Government of Argentina approached the World Bank for technical assistance in the design of a programme to strengthen ANSV's strategic delivery capacity. A series of World Bank initiatives followed to assist ANSV in developing its road safety management priorities, to understand the role of the lead agency in their delivery, and the design and preparation of a road safety project to support and strengthen this role. Detailed project preparation then commenced and subsequently the World Bank Board approved a US $50 million loan to finance its first phase.

The project makes use of country guidelines for road safety management developed by the World Bank to deliver holistic Safe System interventions including institutional improvements; police training; better data collection; infrastructure safety, road user awareness campaigns and enforcement in pilot 'safety corridors'; strengthening of civil society; road safety education in schools (9 million students and 500,000 teachers have been reached); and post-crash interventions, including improved emergency response systems.

The impact of the project has been impressive. Argentina has stopped the rise in road fatalities and begun to reduce the number of deaths, from a high point of 14.5 per 100,000 in 2008 to 11.6 per 100,000 in 2011. The project is achieving the 'trigger points' for approval of stages of the loan drawdown, and a second phase to the project should soon be in development.

Source: Bliss T, Raffo V, (2013). Improving Global Road Safety: Towards Equitable and Sustainable Development. Guidelines for Country Road Safety Engagement

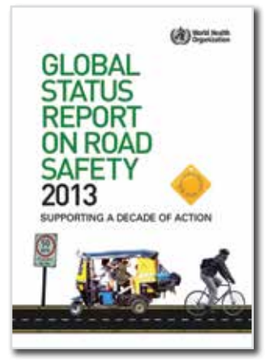
2 A PLAGUE ON THE YOUNG:

THE GLOBAL BURDEN OF TRAFFIC INJURIES

New studies confirm that young people face their greatest risk of death or disability when travelling on our roads and streets.

The serious impact of road traffic injury on global mortality and disability has recently been confirmed in two major new studies. Both the World Health Organization's *Global Status Report on Road Safety 2013*, launched in March 2013, and the *Global Burden of Disease (GBD) 2010* study, published in December 2012 by the Institute for Health Metrics and Evaluation, estimate the overall number of annual deaths on the world's roads at almost 1.3 million. There are considerable variations between high-income and low-income countries and regions, and between different age groups within regions. What is very clear is that road crashes are a leading cause of death and disability for young people, everywhere.

The GBD 2010 study tracks changes in the causes of global death, ill health and disability between the years 1990 - 2010. Researchers found that road deaths over that period increased by 46%, raising road injury from tenth leading cause of death to eighth overall. This increase masks big variations between world regions, reflecting relative incomes and stages of development. In Australasia road deaths were reduced by 31% over the twenty year period, in Western Europe by 43%, and in North America by 13%. Yet in South East Asia they rose by 66%, in Central America by 33% and in West Africa by a massive 112% between 1990 - 2010. [14]



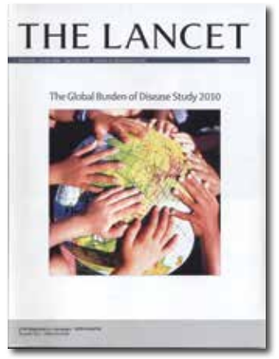
This divide between developed and developing countries is confirmed by WHO's *Global Status Report on Road Safety 2013*, which found that while eighty-eight countries managed to reduce road casualties between 2008-11, another eighty-seven, mostly middle-income, saw deaths and injuries rising. Middle-income countries now account for 80% of global road deaths, and while these countries contain 72% of the world's population, they only have 52% of the world's registered

vehicles. This group of countries averages road fatalities of 20.3 per 100,000 population. Low-income countries are close behind with a death rate of 18.3 per 100,000. This compares with an average of 8.7 per 100,000 population in high-income countries and rates as low as 3 per 100,000 in the best performing nations such as the Netherlands, Sweden and the UK.[15]

Boys and young men are most at risk on the world's roads

The overall figures also mask the disproportionate impact on younger people. Young men are most at risk. According to the GBD study, road injury is the world's leading cause of death for boys and men aged 10-29. Between the ages of 30-40 it is the second biggest killer of men overall, after HIV/AIDS. For women, road injury is between third (during teenage years) and fifth leading cause of death consistently from the age of 5 to 40. This is a young person's plague.

It is a plague on the young at precisely the time when this most at-risk demographic is increasing dramatically in number in the very places where they are most at risk. In sub-Saharan Africa the number of young people aged between 5 and 19 will increase by 115 million by 2025, while the number of people in their 'twenties will increase by 64 million. Over the same period of time the number of South Asians in their 'twenties will rise by 30 million, while in Southern Asia and North Africa the 5-19 age group will increase by 11 million and 9 million respectively.



The GBD 2010 study also measures Years of Life Lost (YLL), which highlight the impact of early death by calculating the years lost from an average lifespan, and Disability-Adjusted Life Years Lost (DALYS), which combine mortality, disability and ill-health. GBD 2010 finds that, worldwide, road injury is the leading cause of YLL for young people aged 15-24, the second leading cause, behind HIV-AIDS, for children aged 10-14 and the fourth leading cause for children aged 5-9. Over the age of 24 it is the second leading cause of YLL worldwide, again behind HIV/AIDS, until people reach the age of 40 and heart disease and other aging diseases begin to impact. As one would expect, it is the leading cause of YLL for young men until the age of 30, mirroring the fatality statistics. Road injury is also the leading cause of DALYS for young people aged 15-24, second leading cause (behind HIV/AIDS) for those aged 25-35, and the leading cause for men until age 29.

In purely economic terms, leaving aside the tragedy and personal loss that is companion to the death of anyone, no matter how young or old, these findings are important. In cold calculation, a country will experience greater economic loss from the deaths of young people in their twenties or thirties in whom educational and health investments have been made, and for whom many future years of economically productive life could otherwise be anticipated. What the *Global Burden of Disease* and the *Global Status Report on Road Safety* studies together show is that road crashes are the leading killer of young men at precisely the age when they are most economically valuable to their State and their society. We are spending blood and treasure at an exorbitant rate, and doing virtually nothing to stem the flow.

How much damage is the road injury epidemic doing to economies? The World Bank has estimated the cost to developing countries at $100 billion a year, based on lost gross national product of between 1-2% a year[16]. But the real benefits to society from preventing road deaths and injuries are almost certainly much higher. In analysis for the World Bank and Commission for Global Road Safety in 2009, the New Zealand Institute of Economic Research estimated the benefits of achieving the fatality reduction goal of the Decade of Action (to prevent 5 million deaths by 2020) to be around US $1.7 trillion[17]. This estimate was based on the International Road Assessment Programme's valuation of a statistical life at 70 times per capita GDP[18]. In addition, the loss of life quality per serious injury is estimated at 10% of the value of statistical life, and hence the total value of savings in life and life quality if the Decade goal is achieved is estimated to be about $3 trillion.

The economic case for investing in road safety is unquestionable

Applying this analysis across the board to the world's leading economies, the 'Group of Twenty' (G20), gives a clear indication of the value of investing in road safety. Taking WHO's estimates of road fatalities in the Global Status Report on Road Safety 2013, we can calculate that the annual cost benefit to the G20 of preventing road deaths is at least US $340 billion. At today's figures, for China the cost is US $69 billion a year; for India, almost US $16 billion; for Brazil, US $9 billion; and for South Africa and Indonesia, around US $6 billion. These figures represent only the investment benefit of preventing deaths and would increase significantly when reductions in injuries are taken into account. Yet even these (relatively conservative) estimates show that the case for investment in road safety is unquestionable.

BOX 6

Kibera: road traffic injuries and the struggle for an education

Children at the Nesco School in Kibera, one of Africa's largest urban slums, are on the front-line of Kenya's road injury crisis. Far too many of them are becoming road victims. Out of 225 children in eight classes interviewed at the Nesco School, nearly half had suffered following a road crash.

There is little to protect the children of the Nesco School as they make their way to their classes each day. With no organised school transport, children are left to negotiate the Nairobi traffic themselves. Many walk. Pavements are non-existent or in poor condition and there are no safe crossing points. Speed limits are absent or not enforced. According to head teacher Solomon Odhiambo, road injury is placing an intolerable burden on the children and the school:

"It's hard to quantify the emotional difficulties our children suffer. Just carrying out this survey on road injury was very tough. Children were shedding tears during the interviews. They still suffer after the trauma of what they themselves and their families have gone through. Then of course there are the physical effects. We don't have the facilities to properly provide access for the children who have become injured. We have had children who have missed long periods of school after they became injured. Too often we have children not attending school when their families are struggling to make ends meet after a parent or relative is killed or badly injured."

When either children at the school, their parents or family members are involved in a road crash, the financial impact is devastating. The families at the Nesco School are among the poorest in Nairobi. For those permanently employed the average wage is $2 a day. However, three-quarters of the parents at the school are unemployed and have no income. The school relies on donations to keep running, though some parents who are able, pay $3 a month to help with costs. If families manage to find enough money for medical care following a road accident, they will often not be able to afford school books. And children will often miss school either as a result of their injuries or to help take care of other family members.

Missing an education

Jane Akinyi: 7 years old

Jane lives with her parents in Kibera. Together with a relative, she was involved in a road crash early last year. A Matatu they were travelling in crashed and rolled. Two people died on the spot. Jane broke her leg and was admitted to hospital for three weeks. She also sustained some burns on her leg. She took another two weeks to go back to school. In total she missed school for five weeks and then struggled when she returned. She had a cast on her leg for a while - she could not remember how long but it was more than several weeks.

Since the accident, she had to walk to school as she could not afford the fare for a bus every day. She has to start her journey much earlier and gets home late. She is not able to play with other children as she would like to. She has also fallen behind in her classwork. Her parents are under much financial pressure as a result of the accident and have difficulty paying the hospital bill. Jane is still afraid of cars and travelling and has flashbacks of the incident.

Nine other children in Jane's class have suffered following road crashes, missing weeks of schooling while recovering or having their education affected over longer periods

Maureen Osodo: 13 years-old

Maureen was being looked after by her grandmother after her parents, who were suffering financial problems, were unable to take care of her. In September 2011, Maureen was with her grandmother when the bus they were travelling in crashed and rolled over. While Maureen was injured and taken to hospital, her grandmother was killed. Maureen went back to her parents and a house of seven children. With the economic strain on the family she can no longer afford the basics - books, school uniform and transport to school. Maureen is still traumatised and is scared each time she watches or even hears of an accident. She is also afraid of travelling by bus. Nine children in Maureen's class have been injured in road crashes. A further seven have had family members involved in crashes. All have missed school as a result.

Sharon Anyango: 13 years old

Sharon, an only child, was brought up by her father. She does not know anything about her mother. On 2 November 2011, her father was hit by a vehicle along the Langat road as he walked to work. He was killed on the spot. She missed school for two months after the death of her father.

Sharon was taken in by her aunt Sarah. Her aunt had three children of her own. She is employed as a home help earning about $2 a day. Sharon misses her father who did everything to make sure her basic needs were met. Sharon spoke movingly about how her father would take her out every Sunday to buy her ice-cream. Her aunt is not able to provide for her like her father did. She has much difficulty getting school books and transport to school following her father's death.

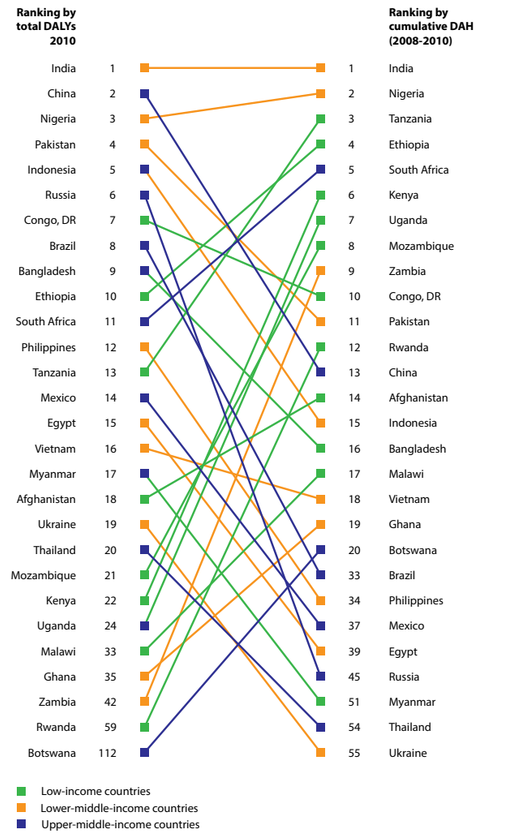
We are spending blood and treasure at an exorbitant rate

Why, when there is clear evidence that road crashes are costing young lives and money, is the world still failing to match words with resources? It is instructive to compare the international response to road crashes with that other great global killer of young people, HIV/AIDS. In 2012 alone the Global Fund to fight AIDS, Tuberculosis and Malaria received US $3.3 billion in donations from governments, philanthropies and other sources. More than US $18 billion has been dispersed globally since 2002 to combat these three terrible diseases[19]. In just one country, Vietnam, where 14,000 people died from AIDS-related causes in 2009[20] the Global Fund – which channels only one fifth of total international financial support for HIV/AIDS - provided a 2011-2012 grant of US $49 million to the Ministry of Health to support a variety of actions on HIV/AIDS prevention and care. According to the WHO's modelled data in the 2013 *Global Status Report on Road Safety*, Vietnam loses an estimated 22,000 people every year on its roads (12,000 deaths officially reported). Yet international donor support for road injury prevention in Vietnam in the years 2011 and 2012 probably totalled not more than US $2 million. Why this imbalance in funding two scourges with a similar disease profile?

It can partly be explained by the thread of accountability. AIDS is a health problem which has a health 'solution' delivered by health professionals. Ministers of Health are directly responsible and accountable for managing programmes of safe sex awareness, condom distribution or delivery of anti-retroviral drugs. Public health foundations have close links to Ministers of Health and these ministers form the core constituency of the World Health Organization. There is a strong bond of mutual understanding and reinforcement.

Road injury, on the other hand, is a health problem with a solution primarily in the hands of transportation and police agencies, not the health sector. Health ministers may be alert to the cost of road trauma to their hospitals and their ability to deliver health services. But they are not directly accountable to their leaders or their people for preventing road deaths and injuries. And there is fragmented accountability for the transport, infrastructure and police ministers who are responsible; accountability which is further confused and diffused by public/private partnerships, toll concessions and privatised roads. The minister with whom the buck usually stops – the transport minister – is often a junior member of cabinet with no connections to the international health community and no powerful international coordinating agency, like WHO, seeking to direct attention and resources his or her way.

Figure 1: Top 20 countries by 2010 all-cause burden of disease versus cumulative 2008-2010 development assistance for health



Sources: IHME DAH Database (Country and Regional Recipient Level) 2012 and Global Burden of Disease Study 2010

Significant international catalytic funding is urgently needed

This lack of accountability and connection is exacerbated by the absence of transportation, as a sector, from the Millennium Development Goals (MDGs). The MDGs have succeeded in focusing attention and resources on health and development priorities. HIV/AIDS, Malaria and childhood diseases are all now at various stages of retreat as a result of single-minded political effort and huge resource deployment, particularly in sub-Saharan Africa where these challenges have been most severe. Yet with the world's aid resources so overwhelmingly directed to a distinct number of health issues there are inevitably many that are relatively neglected. This narrow focus is combined with an assumption amongst donors that once a country has achieved middle-income status it is no longer deserving of assistance. The result is that, with a few exceptions, middle-income countries are left to tackle major, but unfashionable, health burdens without significant financial or technical help. (see figure 1).

Many middle-income countries do not yet have the institutional capacity to deal with the health challenges, including non-communicable diseases and injuries, which rapid economic development is introducing into their societies. Few would suggest that road safety requires international funding on a similar level to HIV/AIDS. But significant catalytic funding is urgently needed, to unlock the latent potential of countries to solve their own traffic safety problems. In the next chapter we argue that road traffic injury prevention must be included within the new Sustainable Development Goals that will be established as the priorities after 2015, when the MDGs expire, if the world is to avoid millions more deaths and injuries.

3 PUTTING PEOPLE FIRST:

A POST-2015 AGENDA FOR MOBILITY

Safe and sustainable road transport, with 'Safe System' speed management at its heart, must be a post-2015 priority.

The current debate on a future framework for sustainable development provides an opportunity to integrate safe and sustainable transport within the next set of development goals, and to establish new partnerships for safe, healthy and clean transport and urban development strategies, with road safety and effective speed management at their heart, which put people first.

At the Rio+20 UN Conference on Sustainable Development in June 2012, world leaders agreed to begin a process of designing new 'Sustainable Development Goals' to replace or renew the Millennium Development Goals which expire in 2015[21]. For the first time at a UN 'Earth Summit', road safety and sustainable transportation were recognised in the communiqué as being an important part of the overall agenda to deliver social equity, health and urban development (see box 7). One of the most significant 'Voluntary Commitments' made at Rio+20 was a promise by the seven Multilateral Development Banks (MDBs) to deploy $175 billion in loans and grants to sustainable transport projects over the next decade. The MDBs combined this commitment with a "call to the international community to embrace sustainable transport as a key sectoral focus of the new global agenda for sustainable development" and proposed "…that at least one of the new sustainable development goals (SDGs) to be formulated should be for sustainable transport"[22]. Recently, the President of the World Bank, Jim Yong Kim, has reiterated the important platform provided by the Rio summit: "We recognise that the Rio+20 Conference has given us an opportunity to move the sustainable transport agenda forward, and road safety is an integral part of sustainable transport." [23]

There is indeed a strong case to be made for integrating road injury prevention into the SDGs as a subset of a wider Sustainable Transportation, Health and/or Urban Environment Goal. In a series of reports for the Make Roads Safe campaign on the impact of road traffic injuries on the MDGs and the case for including road safety within the post-2015 framework

BOX 7

Rio+20: setting the post-2015 sustainable development agenda

The 2012 UN Conference on Sustainable Development (Rio+20) brought world leaders together to begin to set the framework for future international cooperation on sustainable development. The summit's most important outcome was agreement to establish new 'Sustainable Development Goals' for the post-2015 period. For the first time in such a global development summit, road safety was recognised in the communiqué "as part of our efforts to achieve sustainable development". The Russian Federation played the lead role in ensuring road safety was included. More broadly, sustainable transport was also recognised as an important contributor to developmental and environmental objectives:

Sustainable transport in the Rio+20 Communiqué

132. We note that transportation and mobility are central to sustainable development. Sustainable transportation can enhance economic growth and improve accessibility. Sustainable transport achieves better integration of the economy while respecting the environment. We recognize the importance of the efficient movement of people and goods, and access to environmentally sound, safe and affordable transportation as a means to improve social equity, health, resilience of cities, urban/rural linkages and productivity of rural areas. In this regard, we take into account road safety as part of our efforts to achieve sustainable development.

Brice Lalonde, Executive Coordinator of Rio+20, at a Make Roads Safe event in May 2012

At Rio+20 ADB President Haruhiko Kuroda announces US $175 billion MDB commitment

133. We support the development of sustainable transport systems, including energy efficient multimodal transport systems, notably public mass transportation systems, clean fuels and vehicles, as well as improved transportation systems in rural areas. We recognize the need to promote an integrated approach to policymaking at the national, regional and local levels for transport services and systems to promote sustainable development. We also recognize that the special development needs of landlocked and transit developing countries need to be taken into account while establishing sustainable transit transport systems. We acknowledge the need for international support to developing countries in this regard.

Sustainable cities and human settlements

136. (EXCERPT) …We recognize the important role of municipal governments in setting a vision for sustainable cities, from the initiation of city planning through to revitalization of older cities and neighbourhoods, including by adopting energy efficiency programmes in building management and developing sustainable, locally appropriate transport systems. We further recognize the importance of mixed-use planning and of encouraging non-motorized mobility, including by promoting pedestrian and cycling infrastructures….

The Rio+20 summit was also notable for a clarion call by the major Multilateral Development Banks for safe and sustainable transport to be included in the post-2015 goals. Announcing the largest single 'Voluntary Commitment' made at the summit, a US $175 billion promise to invest in safe and sustainable mobility over the coming decade, the MDBs issued a "call to the international community to embrace sustainable transport as a key sectoral focus of the new global agenda for sustainable development" and proposed "…that at least one of the new sustainable development goals (SDGs) to be formulated should be for sustainable transport".

BOX 8

Road injury & development: the collisions and connections

Poverty reduction: Road traffic injuries weaken economic growth and the costs are borne disproportionately by the poor. Many developing countries are losing as much as 2-3 per cent of national income as a direct result of injuries, disability, physical damage and loss of schooling. The World Bank estimated the total costs of road traffic crashes and injuries at US $100bn in 2009 - a figure that represented 80 per cent of OECD aid in the same year. For the poor households who make up a majority of road traffic injury victims, the combination of health costs and loss of livelihoods can produce a one-way ticket into a life of debt and extreme poverty. Research in Bangladesh and the city of Bangalore, India, found that road traffic injuries had pushed many previously non-poor households into poverty[24]. In Bangalore, 71 per cent of urban and 53 per cent of rural poor households with members that had suffered road traffic injury were not poor before the loss of a wage earner. Poverty also undermines the treatment of road traffic injury, punishing the victims twice over.

Child mortality: Efforts to reduce by two-thirds the number of child deaths has produced mixed results. The 2015 target focuses on children under the age of 5. That may explain why the road traffic injuries that represent the second largest cause of death for children aged 5-14 have been kept out of the spotlight. However, the lack of attention to road deaths highlights a widespread tendency to treat child rights – including the right to life – in a highly compartmentalised fashion.

Health system costs: Road traffic injuries place an immense burden on health-care systems, diverting financial and human resources from other priorities, including the treatment of infectious diseases and chronic health problems. In Kenya, road traffic injury patients account for 45- 60% of all admissions to the country's surgical wards. In India they account for 10-30% of hospital admissions. Moreover, because of the severe and long-term nature of the injuries incurred the costs of treatment are often very high.

Kevin Watkins, the new Director of the Overseas Development Institute

Education: Opportunities for education offer the world's poorest and most vulnerable children hope of an escape from poverty. They and their parents understand the importance of getting an education. That is why they make such extraordinary efforts and sacrifices to get to school. The devastating impact of road traffic injuries on education is not widely recognised. Every year, some 262,000 children, adolescents and youth lose their right to an education for a brutally simple reason – they are killed on the world's roads. Many more drop out of school as a result of road injuries to themselves or to their parents. And more still are unable to realise their potential because they are dealing with the trauma and loss that comes with road traffic injuries.

Kevin Watkins
Safe & Sustainable Roads: the case for a Sustainable Development Goal, 2012

BOX 9

Implementing safe and credible speed limits

In general terms it can be stated that the higher the speed, the higher the crash risk and the greater the severity of injuries in such a crash[25]. In a Safe System everything is aimed at reducing crash risk, and if a crash occurs to prevent severe injuries as far as possible. Speed management is therefore very important for road safety policies.

First of all, we need to establish what a safe driving speed is and, based on that, establish what a safe speed limit is. The human body's vulnerability (the biomechanical tolerance) and the important influence of speed on crash severity is the starting point of a safe travel speed. This means: low speed (less than 30 km/h) where vulnerable road users mix with car traffic. Higher speeds are allowable only where high speed traffic cannot get into conflict (solid median barrier on a motorway/freeway). Where higher speeds are allowed, only vehicles that are equipped for these speeds and which provides sufficient protection in case of a crash are permitted. This results in a maximum driving speed of 50 km/h at intersections. At that level, side-impact crashes with good quality cars do not result in severe injuries. Impact speed should be lower than 70 km/h if the road environment means a head-on collision is possible.

Speed management starts with setting safe speed limits. Next, it is important that safe speed limits are also credible limits. By credible speed limit we mean that motorised road users regard the speed limit as logical under given conditions and that the limit fits with the image evoked by the road. When the speed limit is not credible, there are, in principle, two possibilities. Either the road image or the speed limit is adapted. The latter means that sometimes the speed limit can be lowered, and sometimes raised, albeit within the boundaries of a safe speed limit. Furthermore, a logical consequence of the credibility principle

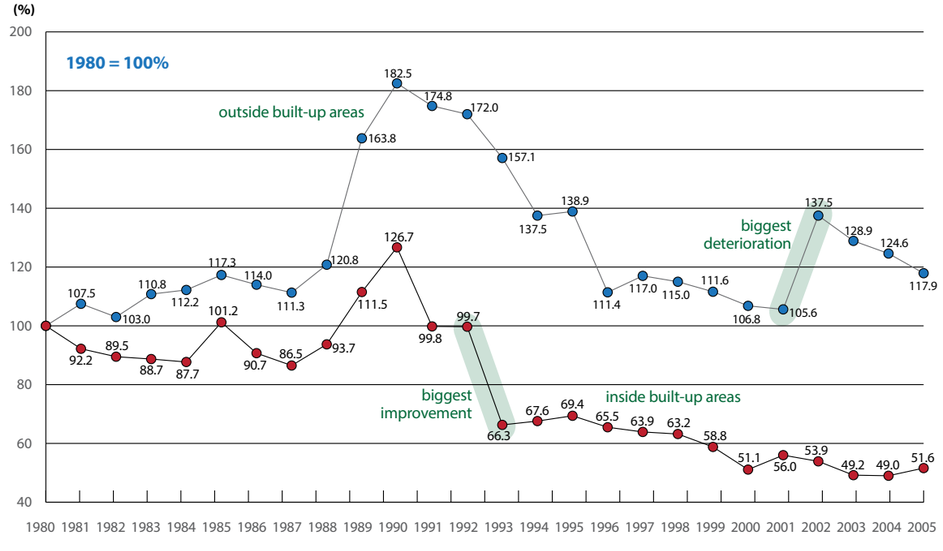
is that a limit transition on a road section always converges with a real change in road image and conversely that a clear change in road impression always converges with a transition in speed limit speed. We call this concept SaCred speed: Safe speeds and Credible speed limits[26].

Three more steps are identified to complement this concept leading to five steps in total:

Step 1. Establishing safe speeds and safe speed limits
Step 2. Setting credible speed limits
Step 3. Giving good information about speed limits
Step 4. Designing and implementing physical speed reducing measures (locations and dimensions)
Step 5. Credible enforcement
In a further future when applying modern technology, two more steps could be taken:
Step 6. Making speed limits more dynamic
Step 7. A completely dynamic, by Intelligent Speed Adaptation supported, speed limit system

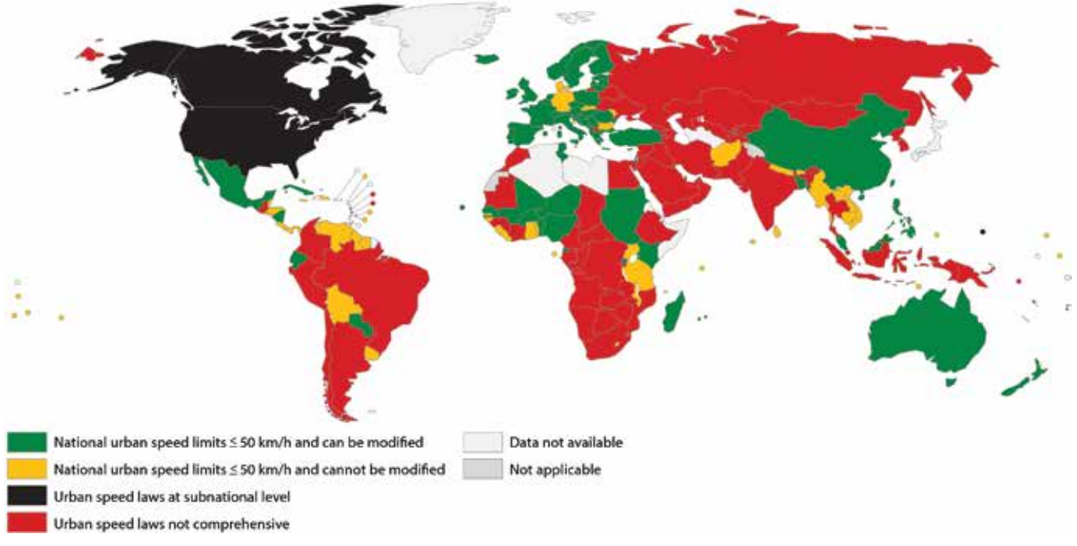
Wegman Fred & Aarts Letty (2006). Advancing Sustainable Safety. Aarts, L., van Nes, N., Wegman, F., van Schagen, I., Louwerse, R (2008). Safe speeds and credible speed limits (SaCredspeeds): a new vision for decision making on speed management. 88th Annual Meeting of the Transportation Research Board.

Figure 2: Speed: the Hungarian experience



Source: Speed Management OECD 2006

Figure 3: Only 59 countries have comprehensive speed laws



Source: WHO Global Status Report on Road Safety 2013

the incoming Executive Director of the UK's Overseas Development Institute, Dr Kevin Watkins, a former Oxfam Research Director, UNDP Human Development Report Director, senior fellow at the Brookings Institution, and a member of our Commission, has highlighted the ways in which road injury can impact on, and should be integrated within, the mainstream development agenda (see box 8). Kevin Watkins argues that "(T)ransport policy and road safety stand out alongside affordable housing, clean water and sanitation, and jobs, as priority areas for any agenda on human development and environmental sustainability…(they) could be integrated into a wider strategy for green growth and sustainable development as one element of the new Sustainable Development Goals. This could include specific targets for road safety, local air quality and fuel efficiency, including a goal of reducing road fatalities by 50% by 2030."[27]

We strongly endorse the proposal for a specific 2030 fatality reduction goal for road traffic injuries within the SDGs. A 50% reduction goal, from the 2007-2010 baseline provided by WHO's Global Status Report on Road Safety 2013, would be consistent with the current goal of the UN Decade of Action for Road Safety, to 'stabilise and then reduce' global road traffic fatalities by 2020. Integrating such a goal within the SDGs would confirm the commitment of the 100+ countries which co-sponsored the Decade of Action goal in the UN General Assembly and connect the 'Safe System' approach of the UN Decade of Action Global Plan to a wider agenda of liveable and healthier cities.

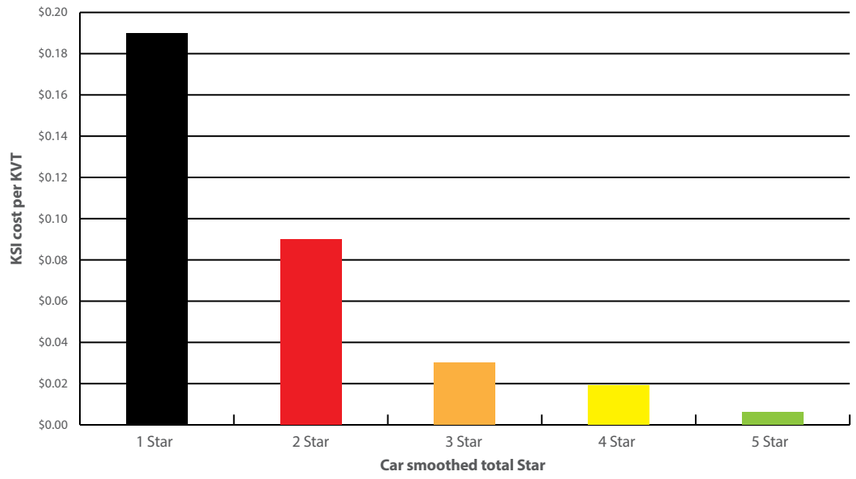
If there is one policy instrument that above all others combines the 'Safe System' approach to road safety with a 'people first' approach to transportation and urban planning, it is speed management. Vehicle speed is the crucial ingredient that determines the degree of kinetic energy that is displaced on impact and the severity of a crash and speed is a major contributory factor to many crashes occurring in the first place. Speed reduction is proven to save lives[28]. Figure 2 demonstrates the experience of one middle-income country, Hungary, as it combined economic growth and development with road safety improvement. The greatest fall in road fatalities resulted from a 10kph speed reduction, from 60kph to 50kph, in built-up areas in 1993. A big spike in road deaths, after ten years of almost continuous reductions, resulted from a decision to increase speed limits by 10kph on inter-urban roads and motorways. If speed reduction saves lives, the reverse is also always true.

Key to the 'Safe System' approach is designing speed management in a way that places road users within an envelope of protection. For areas where pedestrians and cyclists are present this means a well-defined separate space and/or low speed limits. On urban and inter-urban roads where vehicles are not separated it requires a speed limit within the safety design tolerances of the vehicle and the road environment. When vehicle and road design are so combined together with intelligent speed limit policies they can provide a 'forgiving' environment in which a crash that does occur need not be fatal or serious. The leading innovators in road safety policy, countries like the Netherlands and Sweden, are designing speed and road design policies that recognise and protect the vulnerabilities of different types of road user on different hierarchies of road (see figure 4), and that will also be perceived as credible and therefore accepted by drivers (see box 9). But these are policies that can be adopted and adapted anywhere, no matter how rich or poor the country.

What does speed have to do with development? Everything. It is a barometer for how a nation treats its weakest citizens, protects and nurtures its children, decides its public policy. Allowing fast roads to be built through communities without adequate consultation, without providing pedestrian facilities or introducing remedial measures, suggests at worst a lack of concern for the health and well-being of people, at best a dysfunctional or unskilled highways ministry, sometimes aided and abetted by international agencies which should be providing better advice. Too often the key performance indicator for a road project is increased vehicle speed,

BOX 10

Targeting high risk roads

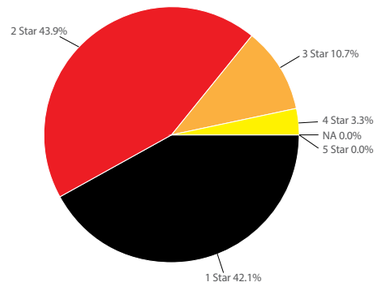


Source: AusRAP 2013: Relationship between star ratings and crash cost per kilometre travelled

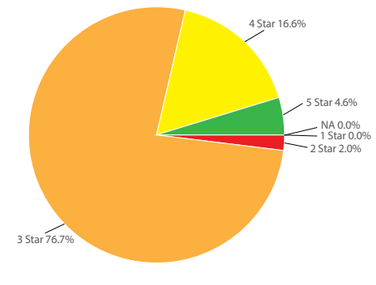
Car RPS star (smoothed) star ratings

	★		★★		★★★		★★★★		★★★★★		Total
KSHIP Annulty Roads - existing	0 km	0.0%	231 km	42.1%	241 km	43.9%	59 km	10.7%	18 km	3.3%	0 km	0.0%	549 km
KSHIP Annulty Roads - proposedv3	0 km	0.0%	0 km	0.0%	2.0%	2.0%	421 km	76.7%	91 km	16.6%	25 km	4.6%	549 km

KSHIP Annuity roads - existing
Car RPS Star (Smoothed) Star Distribution



KSHIP Annuity roads - proposedv3
Car RPS Star (Smoothed) Star Distribution



More than half of the world's road deaths happen on less than 10% of roads. The targeting of high risk roads with the implementation of proven safe system interventions is consequently an efficient way to save many lives. One example of how this can be achieved is through safety star rating of roads, an approach that is beginning to be adopted by many countries.

Star rating is a design and measurement tool used to assess the safety protection provided to all road users on a given road. The relationship between star ratings and the speed limit is crucial. To achieve the safety performance required for a desired star rating a road can either be engineered to enable a higher speed limit (e.g. separation of oncoming traffic, separate provision for pedestrians and cyclists or effective prevention of access, treatment of roadside hazards), or can have a lower speed limit (which needs to be effectively enforced).

The relationship between star ratings and actual crash outcomes is becoming well understood. In simple terms, improving a road from one star to two star will halve crash costs per kilometre or mile travelled. Improving from two star to three star will halve crash costs again.

Taking in to account the economics of road upgrades and traffic volume, the complete elimination of one and two star roads is a viable high return initiative and policy position. Upgrading high volume roads and motorways to four or five star standard is also viable. For example the New Zealand Government has set the target for their Roads of National Significance to be minimum four-star standard.

At the road design level it is important to ensure that new high-risk roads are not built. In this respect, the World Bank is beginning to lead the way with Global Road Safety Facility-funded work in India through the support of Bloomberg Philanthropies. The Karnataka State Highway Improvement Project (KSHIP) in India provides an award winning example of how Star Ratings are being used to design safer roads:

1. The World Bank initially set a target of 3-stars for road safety demonstration corridors. The Government then extended this target to include a further 500km of new roads.
2. Road safety inspections were carried out and baseline Star Ratings calculated for the existing roads.
3. Consulting engineers and road authority engineers used Design Star Ratings to test the safety impact of various design options, such as 'raised pedestrian crossings', and were motivated to achieve the minimum 3-star target.
4. Final designs were based on optimised Star Ratings that met local design standards and budget and environmental requirements.

This process resulted in designs with significantly better Star Ratings than the existing roads through the inclusion of proven improvements such as footpaths, raised crossings, signage and delineation, roadside hazard reduction and paved shoulders. For example, the percentage of road rated 1- or 2-stars for vehicle occupants reduced from 86% to 2% (see above). It was estimated that the new designs would result in 55% fewer deaths and serious injuries than currently occur, equivalent to over 1,400 deaths and serious injuries saved every year on just 550km of road.

A project in the Republic of Moldova produced similarly impressive results. With the support of the Millennium Challenge Corporation, the Global Road Safety Facility and engineers from URS Corporation and Universinj, designs that focused on pedestrian safety in villages increased the percentage of road rated 4-stars from 8% to 84%. Final designs were estimated to reduce risk of severe injuries by 40%.

based on a short term, misguided and out-dated economic analysis that places the greatest single emphasis on getting product to market. The economic, environmental and health impact of increased road traffic injuries is an after-thought, and the basic inefficiency (and inequity) inherent in designing a road which will incur sustained traffic crash deaths and injuries is ignored.

The consequences of such as approach can be found across the developing world: on the four lane highways children have to negotiate to get to school; in the poor, crime-ridden neighbourhoods isolated and hemmed in by urban motorways; in the admissions halls and overcrowded trauma wards of hospitals.

Changing the road design paradigm from one that uses speed as the primary measurement of the efficiency of a road scheme to one that first emphasises the safety and health of those who live alongside and use the roads has been one of our Commission's main objectives since our first report in 2006. We have concentrated on a dialogue with the World Bank and other regional banks because, although their collective road investment is small when set alongside the US $400 -500 billion spent globally each year on roads, they do occupy an important intellectual and moral space as policy leaders. Progress has been painfully slow. In the five years since we worked with the European Bank for Reconstruction and Development to host the 2008 'Making Roads Safer' conference - which saw the first joint meeting on road safety of all the main development banks - there have been a number of positive Joint Statements and launches of initiatives. But evidence of real change in the practice and priorities of country directors and their teams is isolated and inadequate.

The MDBs need to devise and agree a 'do no harm' road safety policy applied to every road infrastructure loan which requires that their activities will not knowingly lead to an increase in road casualties. In our last report, in 2011, we proposed that the briefs given to consulting engineers for new road schemes should make clear that the desired design speeds stated for a new road are subject to achieving minimum safety ratings[29]. In India the World Bank has implemented pilot projects which require a minimum three star iRAP rating on current high risk roads (see box 10). We encourage and recommend that the MDBs urgently establish and implement agreed practice of this kind.

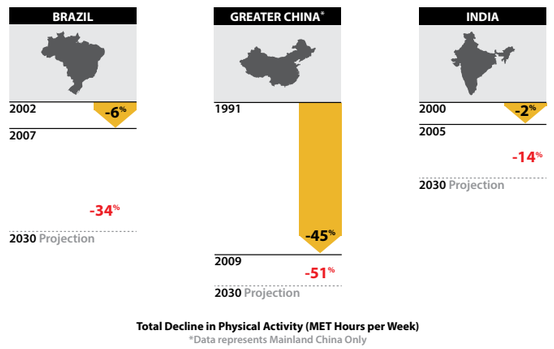
Figure 4: Safe and credible speed limits

TYPES OF INFRASTRUCTURE AND DEVELOPMENT	MAXIMUM SAFE TRAVEL AND IMPAC T SPEED (KM/H)
Locations with possible conflicts between cars and pestricans/cyclists	30 (20 mph)
Intersections with possible side collisions between cars	50 (30 mph)
Roads with possible frontal collisions between cars	70 (40 mph)
Road with no possibility of side or frontal collisions (only collision with structures)	>100 (> 60mph)

Source: SWOV

Of course speed management is also to a large degree dependent on enforcement capability. Issues of governance, corruption and, in particular, the operational quality of the traffic police and the transparency and honesty of the legal system, are crucial to delivering safe road user behaviour change. This must also be a key component of the 'people first' approach. Corrupt traffic police and public officials will undermine public confidence in important safety messages about speed, or drink driving, seat belts and motorcycle helmet use. The corrosive effect can be as damaging to road safety as a badly designed road or substandard car. Indeed, research from Cardiff Business School finds a strong correlation between a country's high corruption perception index and its poor road safety performance[30].

Figure 5: Historic and projected physical activity (PA) levels



Source: Designed to Move, Nike, 2012

The quality of vehicle safety and implementation is also an important indicator of development and impacts on the 'Safe System' approach. A modern, 'five star' European or US car should protect the occupants from serious injury up to speeds of 70kph. The speed limits shown in figure 4 above are predicated on an assumed safety envelope which takes into account the design tolerances of the vehicles on the road. Yet in many emerging markets, cars are being produced that fall far below the standards that should be expected. In 2011 from a total of 60 million new cars more than 20 million failed to meet UN crash test standards, had no airbags, no anti-lock brakes, and no electronic stability control[31]. A 'people first' approach should mean all new cars have all these crucial safety features at the very latest by the end of the Decade of Action.

In the context of the Sustainable Development Goals, the time is right for a 'people first' approach with speed management at its core which can reduce casualties amongst every type of road user and, particularly in the context of urban land-use planning and development, will deliver health, environmental and economic benefits across a wider range of policy areas:

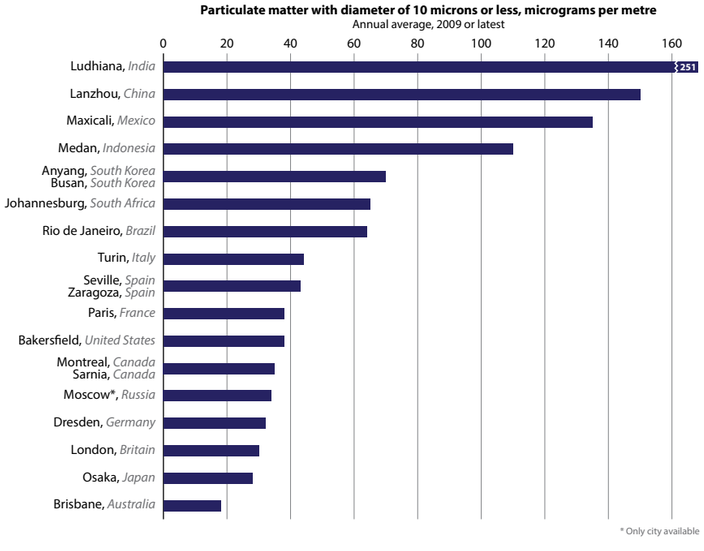
Safe speeds and promoting health and exercise

Lack of physical activity is a major risk factor for a range of non-communicable diseases, including heart disease, colon and breast cancers, diabetes and depression. The WHO estimates that as many as 3.2 million deaths each year are related to physical inactivity. The GBD 2010 study confirmed that lifestyle-related illness is a growing problem in both high and middle income countries. The predictions are startling. By 2030, Americans will be 46% less physically active than in 1965. The Chinese will be 51% less active than they were in 1991, Indians 14% less active than in 2000[32].

This generational shift in levels of physical activity comes at a cost, not least of which is increasing proportions of the population being categorised as 'obese'. Analysis for the Nike 'Designed to Move' campaign suggests direct health costs for obesity-related diseases attributable to lack of exercise of US $90 billion in 2008, rising to $191 billion by 2030; In China, $12 billion rising to $67.5 billion; and in India, $1.3 billion rising to $7.5 billion[33].

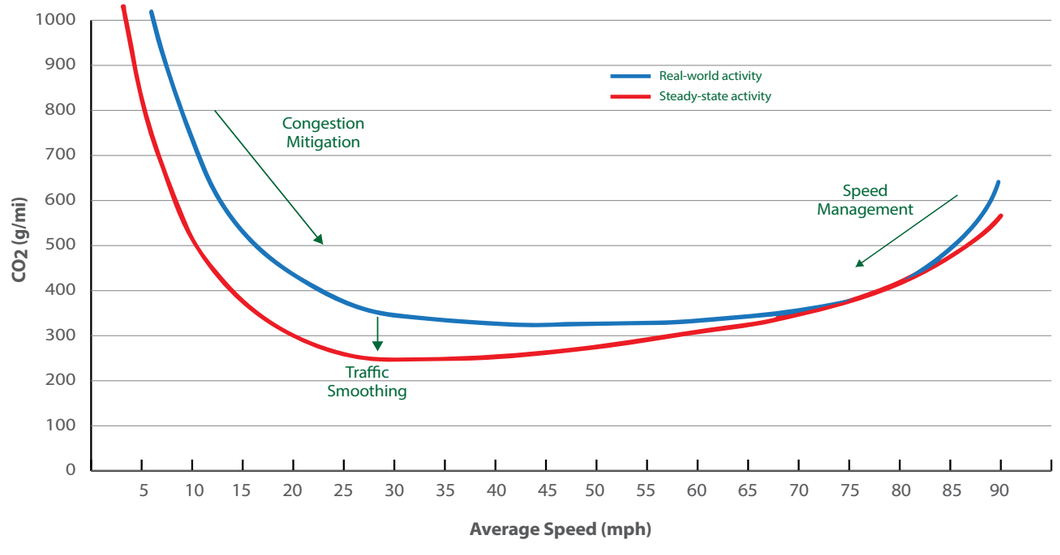
Encouraging walking and cycling, and providing safe outdoor environments for children and youth to play and exercise, can make a major contribution to anti-obesity and non-communicable disease strategies. But to be effective, the 'Safe System' approach to road safety, and speed management in particular, has to be the foundation stone upon which shared public space is built.

Figure 6: Pollution in cities of the world's biggest economies



Source: Economist.com/graphicdetail

Figure 7: Possible use of traffic operation strategies in reducing on-road CO_2 emissions



Source: Barth M & Boriboonsomsin K, (2009)

Safe speeds and improving air quality

Speed is also a contributory factor to increased vehicle emissions, a major cause of outdoor air pollution. This kills at least as many people - 1.3 million annually according to WHO – as road traffic injuries[34]. Between 70-90% of the pollutants responsible for these deaths - such as carbon monoxide, ozone, sulphur dioxide, nitrogen oxides and other particulate matter – originate from gasoline-powered cars. These pollutants have major health effects, including respiratory tract infections and cardio vascular disease. Mortality in cities with high levels of air pollution exceeds that observed in relatively clean cities by 15-20%.

Major urban centres across much of the developing world are now so badly polluted as a result of vehicle emissions that their populations face grave health risks. Of 113 major cities in China, one third failed air quality tests in 2009. In Jakarta, Indonesia and Cairo, Egypt, particulate matter levels average respectively over two and three times WHO guidelines. The most polluted city in the world, according to WHO, is Ludhiana, India, with 251 micrograms of PM 10 particulate matter per cubic metre[35]. But it is not just major urban centres that are affected. One study looking at risk factors for childhood respiratory illness in the Niger Delta region of Nigeria found a strong association with exposure to traffic fumes in the home and at school[36].

Safe speeds and climate change

Climate change is one of the issues that will be central to the post-2015 agenda. Transport policies and speed management will bear an important part of efforts to reduce greenhouse gases. According to the International Energy Agency and the OECD, transport accounts for about one quarter of worldwide CO2 emissions – with cars and trucks representing three-quarters of the total. Road transport emissions have increased by 50 per cent since 1990 and are the second fastest-growing source of emissions after power generation[37].

The impact of road traffic emissions may be even more serious than the headline figures suggest, through the contribution of vehicle emissions to the formation of ozone, which is both an air pollutant and a strong greenhouse gas, and black carbon, which because of its density has a greater warming effect[38]. With car ownership forecast to triple by 2050, transport-related CO2 emissions are projected by the IEA to increase by almost 50 per cent to 2030, and by more than 80 per cent by 2050[39].

CO2 emission are increased when vehicle are idling in heavy traffic, driven in volatile stop-start patterns, or at high speed. Research by the Transportation Center at the University of California found that a combination of congestion mitigation strategies that reduce severe congestion and improve traffic flow (e.g. ramp metering, incident management, and congestion pricing); speed management strategies that bring down excessive speeds to more moderate speeds of approximately 55 mph (e.g. enforcement and Intelligent Speed Adaptation); and traffic smoothing strategies that reduce the number and intensity of acceleration and deceleration events (e.g. variable speed limits and ISA) can together reduce C02 emissions by around 30%. Tacking excessive speed alone can reduce CO2 emissions by between 7-12%[40].

Technological improvements can also play an important role, but again need optimum speed management to work effectively. Advanced diesel particulate filters, used in combination with ultra-low sulphur fuel, have been shown to eliminate up to 90% of black carbon. The benefits are significant because black carbon only lingers in the atmosphere for a short time. Tackling this black smoke issue is now the focus of the Partnership for Clean Fuels and Vehicles, led by the UN Environment Programme[41].

In parallel, the 'Global Fuel Economy Initiative' launched by IEA together with UNEP, the FIA

Foundation and the International Transport Forum is seeking to improve average fuel efficiency by 50% by 2050 by promoting these kinds of technological developments, mentoring governments and advising on fiscal and consumer incentive strategies[42]. But initiatives of this kind need the political support and additional funding that inclusion in the SDGs could help to generate.

Roads and sustainable development

It is clear that road safety is not an isolated issue, and that it directly impacts a plethora of different areas and interests, from education to police governance; from air quality to health delivery. This should be unsurprising. Roads and road transportation, after all, are the essential circulatory system, the arteries and veins, powering our world. We may take them for granted when they work, but we quickly notice when they fail. And we miss them when they are not available. For some senior policymakers improving infrastructure – energy, transportation, roads – must be a key priority of the SDGs. The President of Liberia, and co-chair of the UN's High Level Panel on the Post-2015 agenda, Ellen Johnson-Sirleaf, has stated that development of road infrastructure must play an important role in the SDGs[43]. She was perhaps spurred by a UN 'MY World' opinion research survey conducted in her country which found that 'better roads and transport' was the number one outcome young Liberians hope for from the SDGs[44]. The Finance Minister of Nigeria, Dr. Ngozi Okonjo Iweala, has said that to boost economic development and employment "the post-2015 framework should include indicators such as electricity consumption, per capita density of road network, percentage of population with access to electricity, improved water resources and roads"[45]. John Podesta, US representative on the High Level Panel, has expressed his belief that "creating stronger connectivity for the poorest of the poor – to the economic, political and social lives of their countries – is fundamental to ending extreme poverty"[46].

This recognition of the key role in development for road and other land transport is not new: the Millennium Project Report led by Prof. Jeffrey Sachs[47], the work by Prof. Paul Collier on increasing the economic potential of the 'Bottom Billion[48]' and successive G8 reports have all highlighted the importance of transport infrastructure for connecting 'the poorest of the poor', be they people, countries or regions, to new markets and opportunities. The question is not whether land transport connections are needed, but how they should be implemented. And the question is urgent. The International Energy Agency (IEA) estimates that, on a mid-range scenario assuming some efforts to reduce carbon emissions from transport, the world will still need to add "nearly 25 million paved road lane-kilometres (km) and 335 000 rail track kilometres (track-km), or a 60% increase over 2010 combined road and rail network length by 2050". The IEA cites demand from developing countries for new highway, with "China and India alone account(ing) for nearly USD 26 trillion of total global road expenditures. When combined with the United States, European Union, Russia and Brazil, these regions represent nearly 70 % of projected global spending on roadways."[49]

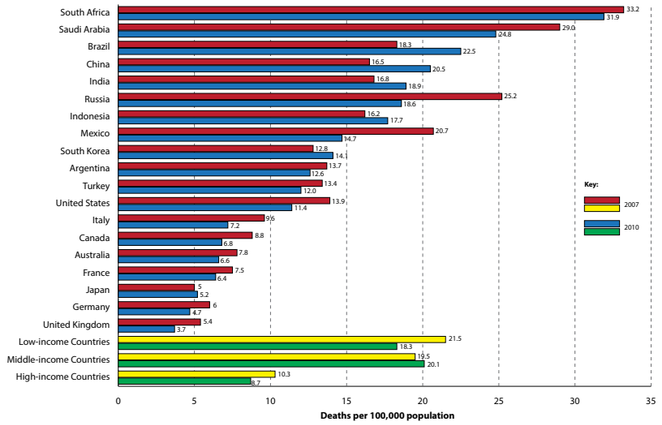
The challenge, and opportunity, of future road investments

In addition to new road construction, the IEA emphasises the scale and investment in upgrading and maintaining existing roads. While cumulative global capital road construction costs to 2050 are predicted to be around USD 33 trillion, or 0.6% of GDP, reconstruction costs to 2050 are estimated at nearly USD 22 trillion, or 0.4% of global GDP. This represents a massive investment by governments and road operators around the world, and also an unparalleled opportunity to invest more wisely than in the past. We strongly support the 'Avoid, Shift, Improve'

BOX 11

The Group of Twenty - securing a road safety growth dividend

Figure 8: G20 Fatality rate per country, 2007 - 2010



The nations of the Group of Twenty (G20)[50] account for almost half of global road traffic fatalities and combine some of the best and worst performing countries in the world in terms of road traffic injury prevention. Measured by population exposure the G20 shows a very wide range of performance with South Africa exceeding thirty deaths per hundred thousand and the United Kingdom less than four. Since 2007 some countries, such as the Russian Federation and Mexico have recorded significant improvements, whilst others have suffered increased losses (See figure 8). This demonstrates the considerable scope among the G20 countries to improve their road safety performance during the current UN Decade of Action of Action for Road Safety (2011-2020) and thus gain a road safety 'growth dividend' worth billions of dollars that will contribute to their wider goals for economic growth and sustainable development.

The world's motor vehicle fleet is forecast to double in a decade and the G20 is at the centre of this unique experience in rapid motorisation[51]. Already the G20 accounts for 78% of the global vehicle fleet (783.5 million out of 1 billion) and 83% of total worldwide passenger car sales (50.3 out of 60.4 million in 2012). The dominant role of the G20 in the globalisation of the automobile, therefore, makes these countries not just a key focus for road safety, but also for the production of safer, cleaner and more fuel efficient motor vehicles. The Decade of Action, therefore, offers an important opportunity to promote synergies with the G20's existing plans to promote investment in infrastructure, urban transport, health, green growth and sustainable development as set out in the Leader's Declaration agreed at the Los Cabos Summit held in Mexico in June this year[52].

At its 2013 Summit in St Petersburg it is likely that G20 will consider the outcome of the 2012 Rio Summit and issues of sustainable development. The Commission hopes that the G20 leaders will recognise the vital contribution that investment in safer, cleaner, and more fuel efficient road transport can make to the overall performance of the world economy.

policy approach to mobility, which seeks to prevent or reduce car dependency, promote the use of low-carbon transport modes, and improve the energy efficiency of existing transport infrastructure, and recognise the potential savings to society if motor vehicle use (and therefore some of the predicted road investment costs) can be reduced[53]. But we also recognise the reality of the situation today in emerging economies, and the strong motivation for the growing middle class to own a vehicle and a private means of mobility. Much of the road construction, and the maintenance and upgrading, predicted by the IEA will undoubtedly happen. We need to ensure that if and when these trillions of dollars are invested it is done with the safety of people as the priority, and in a way that connects people and communities with services and employment, not, as is so often the case, dividing children from schools and poor neighbourhoods from opportunity with two, four or six lanes of fast traffic.

This is why including road safety and sustainable transportation within the framework of the SDGs is so important. It will provide the vital human safety and security context that was missing from the narrative of road infrastructure development in the MDGs, with catastrophic results. In the last chapter we set out the data detailing that catastrophe, and the disproportionate impact on the young. Over the coming years will the world really invest up to USD 50 trillion in roads that contribute still more death, misery and waste of young potential? Those devising the post-2015 agenda must recognise that it is the post-15 age group, both boys and girls, men and women, which is most at risk from this road injury epidemic. Yet we have the solutions at hand, we have an UN-endorsed Global Plan with itemised practical recommendations, speed management at their core. Now we need the political commitment and resources to protect millions of young lives.

4 FUNDING A STRATEGY FOR CHILD AND YOUTH SURVIVAL

New sources of funding are urgently needed to drive a global effort to protect young and vulnerable road users.

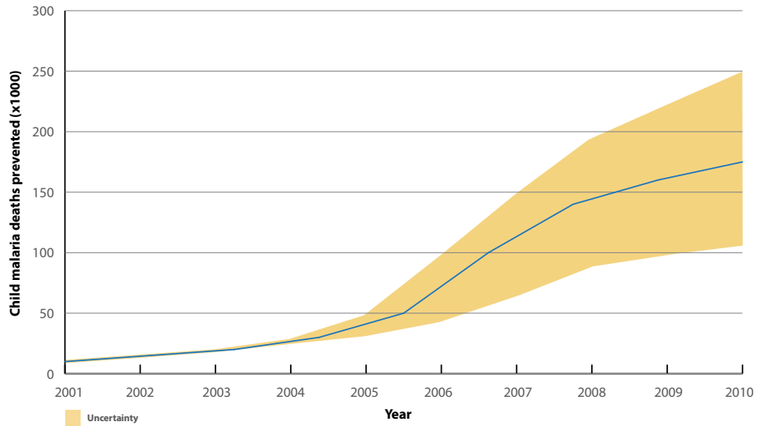
"This is our first task -- caring for our children. It's our first job. If we don't get that right, we don't get anything right. That's how, as a society, we will be judged."

The words of US President Barack Obama, responding to the appalling deaths by shooting of children and staff at a school in Newtown, Connecticut, in December 2012, equally hold true as a response to the tragedy of the 5,000 children and young people aged between 4 and 20 who die on US roads every year, or the 330,000 young people estimated to be killed globally. If protecting and caring for our children is our first task, our roads should be high on the list of places to start.

In *'Time for Action'*, our 2011 report[54], we set out an agenda for child and youth rights on the road as the essential starting point for implementing the 'Safe System' approach, to protect road users of all ages, building on the call by road safety leaders in Sweden in their Tylösand Declaration that children "have special rights within the society and therefore also in the road transport system[55]. Children cannot be seen as responsible users with the freedom to make informed choices. Children have to rely on adults and the society for their protection at all times". We highlighted the obligations of governments under the UN Convention of the Rights of the Child to "ensure to the maximum extent possible the survival and development of the child"[56] and yet the failure of many countries to provide safe roads for children – even to the extent of building sidewalks and adequate crossing points to protect from speeding traffic. We noted the absence of leadership from UNICEF and major children's NGOs which have so far failed to respond in a substantive way to this leading cause of death and disability.

The past ten years has seen major achievements in reducing child mortality, driven by the Millennium Development Goals. At least 1.1 million lives have been saved in Africa, and there has been a 20% reduction in fatalities globally, many of them children, through increased Malaria interventions[57]. But this success has exposed the relative neglect of the health and

Figure 9: Preventing child malaria deaths in the UN Decade to Roll Back Malaria



Source: Roll Back Malaria/ LiST

well-being of older children and adolescents. The international community's investment in infant health, and later in primary and secondary education, must be protected by also investing in the safety of young people as they become independently mobile, particularly at the key points of maximum vulnerability when they begin to walk, cycle and later drive without adult supervision. And as we argued in the previous chapter, taking a co-ordinated approach to policy and investment will achieve a wide range of transport, environmental and health goals.

Take walking as an example. Across much of the world, it is the main mode of travel for young people going to school. As we discussed in the previous chapter, we know that encouraging walking (and cycling) is a cost-effective way to tackle climate change, and to prevent obesity and non-communicable 'lifestyle' diseases. When most roads where pedestrians are present don't have sidewalks, providing footpaths, crossing points and reducing speed limits to enable people to walk safely is a simple, affordable and highly cost effective way to reduce road casualties. By enabling walking, and tackling modal shift to motorized transport options, it also reduces the impact on the global and local environment, makes education, healthcare and employment opportunities more accessible, particularly to poorer communities, and helps to develop healthy lifestyle habits in the next generation. For example, there are some new and exciting school-area based technical solutions, with speed management at their core, that can improve pedestrian and cyclist safety and enable a shift towards safe road provision – if the catalytic funding is available to make it happen (see box 12).

Vehicle safety and graduated driver licencing combined with strong enforcement measures are important interventions for preventing casualties amongst older adolescents and young adults as they begin independent driving[58]. It is the young who drive motorbikes or the smallest, cheapest, least well equipped cars. Even in regions with good vehicle safety standards it is the young – the most at-risk age group - which drives the least safe vehicles. In the regions with little or no vehicle regulation or driver training and the largest youth demographic (who will be first or at best second generation drivers, with no learnt experience) the need for improved vehicle safety and external speed management to provide the 'forgiving' environment for both car occupants and other road users is urgent and most necessary. Catalytic investment in road engineering techniques and vehicle crash test programmes would be both timely and cost-effective, if sufficient funding is available.

In many developing countries driver training and licencing is non-existent or inefficient, and corruption of the processes that do exist can be

BOX 12

The Safe School

Enabling access to education is one of the central planks of the Millennium Development Goals, and will continue to be a priority in the post-2015 development framework. But once students are enrolled in school the environment within which children and adolescents learn is important to their future academic success and life chances.

The World Health Organization, UNEP and UNICEF together published policy on the environmental risks to children, and promoted the concept of the 'safe school' in 2002, to coincide with the tenth anniversary of the Convention on the Rights of the Child. Citing risks including lack of sanitation, air pollution and road traffic injuries, the agencies argued that "unsafe schools pose risks for the health and development of many adolescents"[59]. The WHO later elaborated on the concept of the 'virtuous circle' of education and health, outlining the key characteristics of a 'Health Promoting School' including 'shelter; toilets; water; protection from air pollution and tobacco smoke; protection from traffic accidents and injuries'[60].

Interventions to moderate road traffic speed around schools and provide safe, clean environments for the journey to and from school can reduce children's exposure to road traffic injuries and pollution and encourage regular walking or cycling, combating the early development of lifestyle diseases associated with obesity. Alongside ensuring proper sanitation, warmth and shelter, the impact of traffic on the school environment should be a policy priority. Interventions can also be cost-effective. For example, a 2004 study demonstrated that, at around US $14 per DALY, treating 25% of the most dangerous junctions with speed bumps turns out to be highly cost effective, but requires the identification of such intersections[61].

Safe Routes to School or equivalent programmes focus on the creation of safer environments and behaviours for the journey to school. There are well-established, government-funded programmes in many high-income countries, such as the National Centre for Safe Routes to School in the USA.

In a low- and middle-income country context, Safe Kids Worldwide is currently implementing Model School Zones at a global level. The initiative aims to improve the environment, knowledge, policy and enforcement and behaviours on the journey to schools. In a partnership with iRAP and the Road Safety Fund (through funding from FedEx), Safe Kids are now piloting the star rating of schools which it is intended will provide an objective measure of safety that can be shared with the school community (e.g. this is a five star place to cross the road) and help identify and secure investment for the potential high return road improvements that will save children's lives.

widespread. In the absence of effective government intervention, private sector companies have an important role to play as ambassadors of safe driving behaviour. With hundreds of thousands of employees on the road, often driving high mileage, major companies have especially high exposure to risk of road crashes. The driving of their employees will have a big impact on the behavioural norm for wider society. Well-managed companies have systems for recognising the real costs of road traffic incidents and an interest in keeping insurance and vehicle maintenance costs low. The best-performing companies have developed sophisticated fleet management programmes, incorporating advanced driver training and regular testing, black box technology and data collection on incidents, and monitoring of compliance with traffic rules. ISO 39001, a new international standard for road safety management systems, sets the benchmark to which private sector companies, and governmental organisations, should aspire[62]. All major companies should be investing in their communities, both financially (as we discuss below) but also through setting a safe example on the road, every day.

Road safety interventions can and should be primarily funded through existing national and local government expenditure – for roads, policing etc. Almost all countries, except the poorest and most dysfunctional, have budgets, often supplemented by loans (from development banks or sovereign wealth funds for example) for major road construction or public transportation projects and for policing. Unfortunately many countries still lack basic expertise or even awareness of road safety and very few low and middle-income countries have fully funded road safety strategies in place. Virtually all - including industrialised Western countries - fail to recognise and capture the true economic and social cost of road injury, particularly in relation to long term health impacts, and motor vehicle use in general. Internalising these 'negative externalities' would provide policymakers with a truer picture of the costs of road crashes, and a better understanding of the investment potential of road safety measures. For example, in the State of Victoria in Australia, the costs of bodily injury are paid directly by a State Traffic Accident Commission (TAC). The business case for the TAC to invest directly in road safety and safer infrastructure to reduce future claims costs has a rare transparency. Backed by careful evidence-based analysis, Victoria's Safer Road Infrastructure Programme will be implemented through a A$ 1 billion commitment over the next 10 years[63].

Former racing driver Emerson Fittipaldi, President Rousseff, Ban Ki-Moon, FIA President Jean Todt and Global Road Safety Ambassador Michelle Yeoh at the UN

General Victor Kiryanov, Deputy Minister of the Interior, Russian Federation speaks at the World Health Organization

Jim Yong Kim, President of the World Bank, with Lord Robertson

Global NCAP's Chairman Max Mosley opening its 2012 annual meeting in Malaysia (see box 13)

The use of Social Impact Bonds to capture and transfer the benefits of reduced road trauma to the sectors with the solutions (e.g. road agencies, police and education authorities) provides a potential innovative financing option for the future. A recent study published by the International Road Assessment Programme highlighted the potential for AusRAP Safer Road Investment Plans in Australia to provide the missing metric for common measurement, calculation and reporting of benefits that can make Social Impact Bonds a viable financing instrument to accelerate road safety investment[64]. This approach is equally applicable in low and middle income countries as well as high income countries like Australia and has the potential to radically change how quickly road safety improvements are implemented worldwide.

National road safety programmes are often spurred by regional mobilisation and by the example set by high achieving neighbours. The member states of the European Union and the individual States of the USA have benefited from their respective pooled federal support and convening power to provide good practice examples, legislate for vehicle standards, provide consumer crash test information through New Car Assessment Programmes (NCAP), ensure some harmonisation of traffic rules and enforcement and drive road safety targets.

Yet for most world regions there is no comparable governance structure or funding available. African governments, under the auspices of the African Union and the UN Economic Commission for Africa; and Asian governments through the UN Economic Commission for Asia Pacific, have set regional casualty reduction targets. But these are aspirational targets without regional funding or accountability mechanisms to help deliver them.

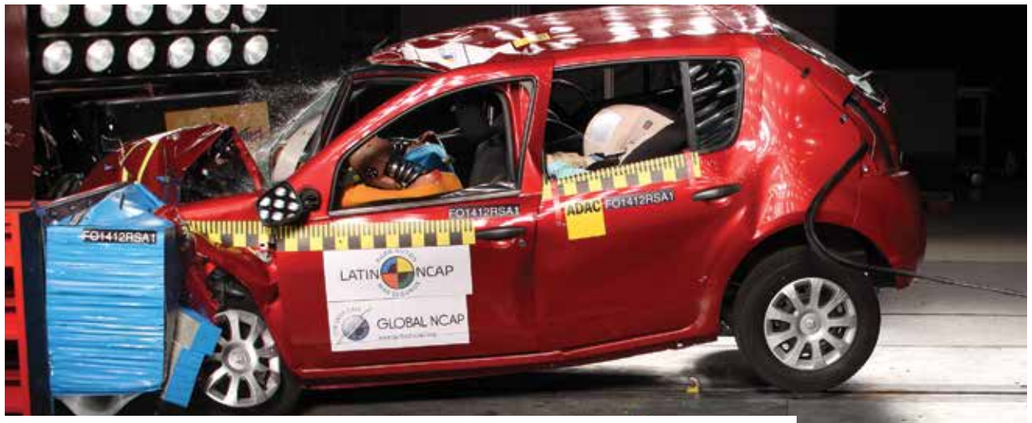
We welcome the commitment of Ban Ki-moon, the UN Secretary General, to include sustainable transport as a priority for his 2012-2017 'Action Agenda', and we recommend that the issue of regional support for transport and road safety, and indeed how transport policy could be organised to have a stronger voice within the UN, should be high on the agenda of his working group[65]. To maintain momentum and increase support for the Decade of Action, we further recommend that the Secretary General should establish a distinct High Level Group to review progress on the implementation of the Global Plan for the Decade of Action. The remit of such a group should also include a review of global funding for the Decade of Action with a view to making recommendations on the catalytic resources needed to promote national and regional road injury reduction programmes in support of the Global Plan and to prepare a report and recommendations for the mid-term Ministerial Review meeting of the Decade of Action to be held in 2015.

In advance of the mid-term ministerial meeting we would encourage governments to work with the UN Road Safety Collaboration and the UN Regional Commissions to identify areas of practical road safety collaboration. For example, at regional level targets should be developed consistent with the Decade of Action's Global Plan. These could include seat belt and helmet wearing rates; minimum safety design performance for road infrastructure; setting and enforcing Safe System speed management policies; application of UN vehicle safety regulations and support for regional new car assessment programmes. Such an initiative, in every world region, could help to stimulate national activity, ignite national pride and deliver national results. But such an effort needs catalytic funding and technical support.

In 2006 our Commission recommended that at minimum a $300 million, ten year fund was needed to catalyse road safety activity and assist

BOX 13

Promoting safer cars worldwide in the UN Decade of Action



The Renault Sandero provides a very poor level of occupant protection and scores just one star. The vehicle has no airbag and the body shell shows severe distortion resulting in a very high risk of fatal injury.

The Toyota Etios scores four stars and demonstrates the life saving potential of an air bag combined with good body shell integrity. Both vehicles tested by Latin NCAP with support from Global NCAP were crashed at 64 kph.

New Car Assessment Programmes (NCAPs) help to create a 'market for safety' by providing consumer crash test results to the public. The first NCAP was launched in 1978 by the US National Highway Traffic Safety Administration. There are now nine NCAPs active in Asia, Australia, Europe, Latin America and the USA and have proved to be highly effective in promoting improved vehicle safety.

In 2011 Global NCAP was launched as a UK registered charity which aims to:

- offer support to NCAPs in emerging economies and regions by offering technical support guidance and quality assurance.

- provide a platform for cooperation for NCAPs and like organisations around the world to share best practice, and exchange information.

Global NCAP Chairman Max Mosley explains that "as the global vehicle fleet is set to double in the next ten years, we need to help consumers around the world make informed choices when they buy new cars. Automobile use in emerging markets like Brazil, China, India and elsewhere is expanding at an unprecedented rate. Yet it is precisely in these countries where we face a growing death toll on the road. So Global NCAP will help to develop new programmes in the rapidly motorising regions and provide a global platform for co-operation among NCAP's worldwide".

Global NCAP is now supporting pilot projects in Latin America and the ASEAN region. Latin NCAP's test results have revealed that the region's top selling cars are about twenty years behind the levels of safety enjoyed in Europe and North America. Key safety features such as air bags and 'crumple zones' are missing from popular models that would fail to pass the UN's minimum crash test standard. Max Mosley argues that "consumers need to understand that choosing to buy a car with airbags could literally be a life and death decision for them and their family if they are involved in a crash".

NCAPs typically award stars to car models using crash tests that score occupant protection. These are recorded by measuring the loadings on instrumented dummies. The most frequently used frontal impact test simulates a car to car crash in which the vehicle hits a barrier that replicates the soft front end of the other vehicle. The impact is 'offset' with a 40% overlap and the test speed is 64 kph; the speed at which fatalities are most common. The side impact test hits the vehicle just above the door sill area at 50 kph. NCAPs are usually more stringent than legislative tests. A 5-star Euro NCAP Car, for example, is estimated to have a 36% lower fatality risk than a car that just passes the UN's crash test regulations. Some NCAPs are now using and developing tests for crash avoidance technologies and pedestrian protection.

In 2012 Global NCAP held its inaugural annual meeting in Melaka, Malaysia hosted by the Malaysian Institute for Road Safety Research. All active NCAPs attended and adopted the 'Melaka Declaration' which endorsed the vehicle pillar of the UN Decade's Global Plan. These include the universal application of the UN's most important vehicle safety regulations and the creation of NCAPs in all world regions. This recommendation was also endorsed last year by the UN General Assembly in a resolution on road safety that, inter alia, encouraged Member States to "participate in the new car assessment programmes in order to foster availability of consumer information about the safety performance of motor vehicles". Global NCAP's Chairman Max Mosley told the meeting that "here in Melaka, we are turning the UN Assembly's words into action, which is what the Decade should be all about".

governments in building sustainable expertise to tackle their own road injury problems, guided by a global Action Plan. At the time we advised that two-thirds of this funding should come from donor governments (with members of the G8, for example, together contributing $14 million a year), and a third from other sources. We commented that this funding would be "very substantially less than is already being committed to comparable public health problems such as malaria and tuberculosis, but would enable significant and measurable progress to be made in reducing global road traffic deaths and injuries."[66]

What progress has been made? In 2010 the United Nations did finally recognise the scale of the epidemic by launched the Decade of Action, and in 2011 an advisory Global Plan based on the 'Safe System' approach was approved by the UN Road Safety Collaboration. Bloomberg Philanthropies, the FIA Foundation, the World Bank (through the Global Road Safety Facility) and a number of countries and private sector companies have committed resources totalling approximately $160 million. The vast majority of this funding, US $125 million, has come from Michael Bloomberg – a contribution we recognised when our Patron, HRH Prince Michael of Kent, presented Mayor Bloomberg with the inaugural 'Decade of Action Award' in 2012. His commitment to the issue through his Global Road Safety Program is welcome and extremely necessary, and we urgently need other public health philanthropies to follow his lead.

Because the alarming truth is that the lion's share of this, already limited, pledged funding is set to run out by the mid-point of the Decade of Action. Governments agreed - in their UN resolution establishing the Decade - to hold a mid-term Ministerial Conference in 2015 to review progress. They could arrive at their conference to find that the cupboard is almost bare. Replenishing funding for the Decade must be the priority if we are to realise its potential. In addition to engaging new philanthropic support, donor governments and the private sector must also do more to recognise their responsibilities in this area. The contribution of both has been, with a very few honourable exceptions, embarrassingly small.

In the previous chapters we addressed the need for governments to make safety and sustainability the priorities in their transport policies, and we argued that road injury must become part of the mainstream post-2015 development goals if we are to see a real shift of emphasis in political and resource support from bilateral donors. But this is also an issue on which the private sector can and should be taking a lead now. For the automotive sector, whose products are contributing to the epidemic and whose future growth markets are in exactly the regions of the world where road injury is highest and increasing most rapidly, there is a moral obligation to support the implementation of the Decade of Action. For other companies, particularly those multinationals with exposure of fleets and employees in countries like Brazil, China, India and South Africa, the benefit of supporting road injury prevention should be obvious – we know that many major companies are regularly losing employees to road crashes.

Some companies are supporting global road safety through organisations such as the Global Road Safety Partnership (GRSP), a public/private group set up by the World Bank in 1999 and hosted by the International Federation of the Red Cross and Red Crescent; the Global Road Safety Initiative, a coalition of private sector companies; and the Road Safety Fund, which was jointly established in 2011 by the World Health Organization and the FIA Foundation. We welcome these contributions, and we do not underestimate the achievements of road safety champions within some of these companies in persuading their boards to invest. We urge other companies to follow their lead. But the overall impact, so far, is relatively small. There needs to be more ambition.

Those who profit from motorisation must also contribute to preventing road traffic death and injury

In our 2011 report we proposed that car manufacturers should establish a voluntary levy on their customers of $2 per new car, at point of sale. We estimated that this modest proposal if adopted by all major manufacturers world-wide, could eventually raise up to $140 million a year if vehicle sales projections are met. We argued that, if even only the most enlightened minority of OEMs supported this effort, the sums raised could contribute to a significant implementation of the Global Plan[67].

There should be a clear principle that those who seek to profit from rapid motorisation in emerging markets must also fairly contribute to efforts to mitigate the death, disability and human suffering. It is time for companies in the automotive and road mobility sectors to step up, to meet their moral and social responsibility by supporting a new innovative financing initiative for the Decade of Action. Car and truck manufacturers, insurance companies, fuel companies, car rental companies and automotive parts and service providers can all play their part by joining an innovative financing initiative which encourages their customers to make a small donation at point of sale. To promote this effort we have agreed to work in partnership with the World Bank to undertake a feasibility study reviewing the potential for an innovative financing scheme. This will be the first step to developing a proposal in collaboration with interested private sector partners. We hope that a detailed and workable scheme, which would provide a fair and commercially attractive way for the automotive sector and its customers to contribute to road injury prevention efforts, could be devised and endorsed by leading private sector partners in time for the mid-term Ministerial Conference of the Decade of Action in 2015.

5 SAFE ROADS FOR ALL

Safe roads, like education and healthcare, should be a right for all. Now we need a post-2015 Goal to deliver action.

In our 2011 report we highlighted the story of Phal, a five year old Cambodian boy who had been hit by a vehicle while walking home from school. The crash had left him mentally and physically disabled, no longer able to walk. In January 2013 we returned to his home outside Phnom Penh to see how life has changed for him and his family, two years on. Phal (above) is now back at school, although his learning abilities are severely affected. His mother takes him to school in a wheelchair and collects him in the afternoon. Her caring responsibilities mean she has been unable to return to work, and a poor family has become poorer. Phal is a cheerful, smiling, little boy who should be embarking on the great adventure of life. Instead he faces a difficult future. All he wanted and expected was to be able to enjoy an education, to learn, to thrive… and to walk home from school safely.

In this report we have highlighted the scale of road death, disability and suffering amongst the young; we have shown that this is occurring in the regions with the largest youth populations and the most rapid motorisation. We have also reported the progress that is being made, through the UN Decade of Action for Road Safety, in improving laws, making roads and vehicles safer, and reducing casualties in some parts of the world, and how so much more could be achieved with political commitment and resourcing commensurate to the appalling health burden.

In an effort to finally achieve that political commitment we have made the case that the scale of this epidemic, and its widespread linkages to other policy areas, means that road traffic injury prevention merits inclusion in the post-2015 development goals. In May 2013 thousands of people across the world will launch the 'Long Short Walk' campaign, walking in their communities to support inclusion of road safety in the Sustainable Development Goals. The idea that by 2030 we can halve the number of people being killed is not an impossible dream. It is achievable. But it will require levels of political engagement, technical assistance and catalytic funding that we are currently nowhere near attaining. It will require, in short, that the world finally wakes up and presses the alarm button.

As Zoleka Mandela, bereaved mother of a 13 year old daughter, Zenani, killed in a road crash, has said, we "can no longer ignore this 21st century challenge of road traffic injury amongst our young people". But by taking the safety, security and survival of children and young people as a starting point, and deploying Safe System speed management as the vaccine, we know it is possible to significantly reduce road fatalities. By aiding and protecting the weakest, we protect all. For the sake of Zenani, Phal, and the thousands like them who are killed or disabled – avoidably - every single day, we must now ensure that roads are made safe for all.

Join THE LONG SHORT WALK

longshortwalk.org

The Long Short Walk is a global campaign for safe walking to be a right for all, and for road traffic injury prevention to be included within the post-2015 Sustainable Development Goals framework.

European Commission Vice President, and EU Transport Commissioner, Siim Kallas

Global Road Safety Ambassador Michelle Yeoh

Jamaican and US Olympic athletes

General Victor Kiryanov, Deputy Minister of the Interior, Russian Federation

Etienne Krug, WHO, and Lord Robertson

US Surgeon General Regina Benjamin

Nikki Jamal, Eurovision Song Contest Winner

Didier Drogba

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Commission for Global Road Safety

Support for road safety as a health and development priority

"I commend the efforts of the Commission for Global Road Safety and its partners in the establishment of the UN Decade of Action for Road Safety…We recognise that the Rio+20 Conference has given us an opportunity to move the sustainable transport agenda forward, and road safety is an integral part of sustainable transport".
Jim Yong Kim, President of the World Bank

"The world is rapidly motorizing…more concerted action is needed, and it is needed now. Without this, we can expect a rise in the number of deaths and injuries on our roads".
Margaret Chan, Director General, World Health Organization

"We've made huge progress in the last decade in cutting the number of children who die from diseases and we've also had huge numbers of children going to school for the first time. But we won't continue to make progress unless we deal with this hidden crisis, of children - often walking along roads to get to school or having to cross a busy road to go and fetch water, or just going to see their friends - being run over and disabled or killed".
Justin Forsyth, Chief Executive, Save the Children

"Far too many children are being killed on the roads. This is a very important campaign. We need action now to save lives".
Didier Drogba, footballer and philanthropist

"When we look ahead to the Sustainable Development Goals there is a great opportunity to put road safety, the safety of children in particular, at the heart of these discussions. We need to do it to protect the investment we've made in children, particularly in their education".
Nigel Chapman, Chief Executive, Plan International

"Unless the international community addresses road traffic injuries, air pollution and carbon emissions from vehicles within the single framework of a sustainable transport policy we will have failed in our task of setting post-2015 Development Goals that meet the real needs of our generation and future generations. And that would be an unforgivable outcome".
Kevin Watkins, Executive Director, Overseas Development Institute

MAKE ROADS SAFE
The Campaign for Global Road Safety

Commission for Global Road Safety

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