BREAKING THE DEADLOCK

A SOCIAL IMPACT INVESTMENT LENS ON REDUCING COSTS OF ROAD TRAUMA AND UNLOCKING CAPITAL FOR ROAD SAFETY
FIA FOUNDATION RESEARCH SERIES, PAPER 3
July 2015

The FIA Foundation is an independent UK registered charity which supports an international programme of activities promoting road safety, the environment and sustainable mobility, as well as funding motor sport safety research. Our aim is to ensure ‘Safe, Clean, Fair and Green’ mobility for all, playing our part to ensure a sustainable future.

The FIA Foundation Research Paper series seeks to provide interesting insights into current issues, using rigorous data analysis to generate conclusions which are highly relevant to current global and local policy debates.

Commissioned by:
The FIA Foundation, 60 Trafalgar Square, London WC2N 5DS, United Kingdom


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Development Bank

ADB

AIP Foundation

DFI

DIB

FSI

GDP

GIIN

GRSF

GRSP

Impact Bonds (DIB/SIB)

iRAP

Asian Development Bank

Asia Injury Prevention Foundation: a non-profit enterprise with the mission to provide life-saving traffic safety knowledge and skills to the developing world with the goal of preventing road traffic fatalities and injuries.

Development Finance Institution

Development Impact Bond

Fatal and Serious Injuries

Gross Domestic Product

Global Impact Investing Network

Global Road Safety Facility: World Bank facility with an emphasis on accelerating and reinforcing the capacity of low and middle-income countries to implement affordable road safety programmes.

Global Road Safety Partnership: global partnership administrated by the World Bank of multi- and bi-lateral development agencies, governments, business and civil society organisations, creating and supporting multi-sector road safety partnerships that are engaged with front-line good practice road safety interventions in countries worldwide.

Impact Bonds: outcomes-contingent contracts between investors, service providers and social funders. Investors provide upfront finance for a service delivered by a separate service provider (usually a social sector organisation or NGO), and an outcomes funder pays investors their principal plus a return depending on successful achievement of pre-agreed social outcomes.

The outcomes funder in a Social Impact Bond (SIB) is a government commissioner.

The outcomes funder in a Development Impact Bond (DIB) is a donor organisation (for example bilateral or multilateral donors or charitable Foundations).

The International Road Assessment Programme: a registered charity with the vision of a world free of high risk roads. iRAP provides tools and training to risk map and star rate the performance of road infrastructure for all road users and develop the associated investment business case to upgrade roads and save lives.

Public-Private Partnership

Road Accident Commission (South Africa): government body responsible for planning, designing, developing, constructing, managing and maintaining the road network in the State of Victoria, Australia.

Star Rating System

Transport Accident Commission: government-owned insurer in Victoria, Australia, to pay for the treatment and benefits of people injured in transport accidents, promote road safety and improve Victoria’s road trauma system.

Sustainable Development Goals: a proposed set of targets for global development, which build on the Millennium Development Goals and are intended to converge with the post-2015 development agenda.

The Inter-governmental Open Working Group: a 30-member body of country governments, coordinated by the UN, tasked with determining the Sustainable Development Goals.

Multilateral Development Bank Road Safety Initiative: a shared program of seven multilateral development banks (for example African Development Bank, Asian Development Bank) to reduce the forecast level of road traffic fatalities worldwide, especially in low and middle-income countries.

New Car Assessment Programmes

NCAP

NCAP

OWG

PIARC

PPP

SDG

Sustainable Development Goals: a proposed set of targets for global development, which build on the Millennium Development Goals and are intended to converge with the post-2015 development agenda.

Transport Accident Commission (South Africa): government body responsible for planning, designing, developing, constructing, managing and maintaining the road network in the State of Victoria, Australia.

United Nations

World Bank

World Health Organization

WHO
2015 sees important processes which have the potential to advance the global road safety agenda. Road safety targets are expected to be included in the United Nation’s new Sustainable Development Goals, with a specific stand-alone target in the Health Goal and action to reduce road traffic injuries and provide safe and sustainable transport integral to the Cities Goal. In November 2015, just weeks after the new SDGs are finalised, governments from across the world meet in Brasilia for the 2nd Global High Level Conference on Road Safety. A stated aim of the Brazilian hosts is to focus on practical implementation of the new SDG targets.

Practical implementation must include funding and financing preventive action. Road safety is primarily a national competency and a responsibility of governments and city authorities, and sustainable funding must include national sources. However, donors have a critical role to play. In many developing nations there is a need for catalytic financial and technical assistance to build capacity, design effective road safety strategies and set the machinery of government on a path to sustained casualty reduction. Targeted donor funding and investment could more effectively channel local spending. In a new report on global health spending, the Institute for Health Metrics and Evaluation estimates that, on average, developing countries spend around USD$20 for every $1 provided by international donors. No equivalent analysis has been done for road safety spending, in part because there has not yet been concerted focus on directing capital to the issue. It is overdue.

Both the injury burden and the new SDGs suggest that road safety should now be recognised as a priority for global public health. If we are to see increased international and country-level funding of road safety, donors and other investors, whether finance ministers, philanthropists or the private sector, will want to see clear evidence of the social impact of their investment.

This paper, by Social Finance and Impact Strategist,
More than three thousand preventable deaths and many thousands of serious injuries from road trauma occur every day. More than 1.2 million people currently die on the world’s roads each year,\(^1\) with an estimated cost of 2-3% of global GDP.\(^2\) Road fatalities are projected to increase to almost two million by 2020 unless substantial efforts to improve road safety are implemented.\(^3\) The toll is highest in developing countries, where new motorisation is rapid and more than ninety percent of fatalities occur.\(^4\)

The social and economic consequences are so significant that road safety has been recognised in the United Nations (UN) sponsored Decade of Action for Road Safety and the draft Sustainable Development Goals (SDGs)\(^5\) as a priority public health issue. If unaddressed, it threatens to impede sustainable development and hinder progress.\(^6\)

The actions needed to improve road safety are well understood: build safer roads, improve vehicle safety, reduce speeds and encourage safe road user behaviour. Significant analysis has gone into attributing economic value to the effect these ‘safe system’ interventions can have on reducing crashes and the severity of their consequences. Still, there are major gaps in capacity to deliver the elements for safety in many countries and, critically, in the evidence base that can unlock those elements at scale.

Similarly, significant investment each year goes into building and maintaining road infrastructure and meeting the costs of road trauma. Yet, there are significant challenges to directing capital into prevention at the scale required to meet the road safety goals set by the international community. Despite pockets of leadership and a range of initiatives underway across the globe, a step-change is needed in the approach to allocating funding and investment to road safety.

Social impact investing provides an exciting option to ‘unlock’ the benefits of improving road safety: it can prove concepts, stakeholder appeal, larger scale, clear identification of financial cost and current data limitations.

The focus of this paper is to set those foundations for how funding and finance can be directed more consistently to creating safe systems. There are three key sections: The need and imperative for action on road safety; the potential of social impact investment; and how these can be brought together to build the case for investment in road safety and map a way forward.

The ‘5 steps to action’ are a concrete basis from which to deliver greater and more timely investment in improved road safety.

1. Develop targeted case studies to better understand what existing data can tell us.
2. Identify projects currently in development to serve as a demonstration of how a social impact investment approach could be applied in the road safety context.
3. Design a methodology and toolkit for collection of data.
4. Use the imperative of the Decade of Action and focus on road safety in the Sustainable Development Goals to gain multi-stakeholder commitment and resources to develop the evidence base.
5. Develop a roadmap to progress from concrete illustrations of the complex ideas involved in investing in safe systems to advocate for and develop options that will deliver change at scale.

This action-oriented agenda is an invitation to stakeholders to contribute to unlocking early opportunities and building the foundations for bold and more aspirational leaps toward scale - and a safer future.
THE NEED FOR ACTION ON ROAD SAFETY

BOX 1: THE US DEPARTMENT OF TRANSPORTATION ROAD SAFETY ACCIDENT DATA

Analysis indicates that approximately 33,000 people were killed and 3.9 million were injured in motor vehicle crashes in the US in 2010. The economic cost of those crashes has been estimated to be USD$242bn or approximately USD$784 per capita. That equates to approximately 1.6% GDP. When quality of life considerations are taken into consideration the estimated cost increases to USD$836bn.

Source: NHTSA, USDT 2015.

Ironically, these issues are often exacerbated by economic growth in other sectors. In many cases, investment in road infrastructure to reduce travel times and increase, higher speed, road usage. In the absence of well targeted road safety protocols the economic implications of that over the next fifteen years will be significant.

Safe systems approach

The scale of the road safety problem is well understood, as are the types of crashes causing death and serious injury, the types of factors contributing to them and the solutions required to address them.

The majority of crashes involving FSIs are run-off road, head-on, intersection or impact to vulnerable road users moving along or crossing the road. While road user behaviour is a factor in many crashes, safe road and roadside design can play a significant role in reducing road trauma. Some countries have started to integrate "safe systems" approaches such as the following examples:

### Safe systems approach

**Table: BLEM**

<table>
<thead>
<tr>
<th>COUNTRY INCOME CATEGORY</th>
<th>LOWER MIDDLE</th>
<th>UPPER MIDDLE</th>
<th>HIGH</th>
<th>ALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of countries</td>
<td>49</td>
<td>47</td>
<td>49</td>
<td>178</td>
</tr>
<tr>
<td>Annual fatalities (FSI)</td>
<td>494,000 (18.0)</td>
<td>509,000 (17.8)</td>
<td>94,000 (8.7)</td>
<td>1,225,000 *</td>
</tr>
<tr>
<td>Annual injuries (FSI)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(per 100,000 pop)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annual cost of FSI (USD)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* 5% of GDP per annum
In a road crash, the amount of force a person can absorb depends on the amount of protection they have. This protection is increased when we work within the rules of the safe system.

Safe system planning and implementation involves the use of a range of road safety interventions including regulation and enforcement, safe road and roadside infrastructure design and construction, vehicle and product design, road user awareness and education programs and emergency and post-crash service system improvement.

Graduated or tiered licensing regimes have also been established in a number of countries to promote driver safety by requiring new drivers to build their skills over time before being issued with a full or open licence. Specific training requirements are often also applied to large scale transport (for example, bus and heavy vehicle drivers.)

Minimum safety requirements are also being built into some toll road construction projects and in some cases penalty provisions linked to the incidence of FSIs have been built in to incentivise toll road operators to focus on road corridor upgrades based on targeted star rating

Minimum vehicle safety standards are being built into some government and corporate car fleet procurement arrangements for road construction, improvement and maintenance. For example, some contracts to implement he occupation he workforce in some road incident environments are based on road inspection data and provide a simple and objective measure of the level of safety which is ‘built-in’ to the road for vehicle occupants. Under this system, five-star roads are the safest while one-star roads are the least safe.

The new management standard for road safety incorporates the concept of a “five-star” system, five-star roads are the safest while one-star roads are the least safe. Some behavioural initiatives have been more broadly based. For example, the TAC has funded a range of education and awareness building campaigns aimed at influencing driver behaviour. Other initiatives have targeted take-up and awareness building initiatives. The new management standard for road safety also incorporates the concept of a “five-star” system, five-star roads are the safest while one-star roads are the least safe. Some behavioural initiatives have been more broadly based. For example, the TAC has funded a range of education and awareness building campaigns aimed at influencing driver behaviour. Other initiatives have targeted take-up and awareness building initiatives.

In an innovative approach a public transport accident insurer in Victoria, Australia, the Transport Accident Commission (TAC), has also funded a range of awareness building initiatives. The new management standard for road safety also incorporates the concept of a “five-star” system, five-star roads are the safest while one-star roads are the least safe. Some behavioural initiatives have been more broadly based. For example, the TAC has funded a range of education and awareness building campaigns aimed at influencing driver behaviour. Other initiatives have targeted take-up and awareness building initiatives.

In developing markets, consideration is also being given to the improvement of emergency post-crash response systems, including the provision of maximum safety requirements, minimum vehicle safety standards and effective post-crash medical treatment and rehabilitation.

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The need for action on road safety

Identifying the range of benefits of safe systems, including reduced road trauma, more explicitly points to a broader range of beneficiaries - parties who may currently be bearing costs of less than optimal approaches. Identifying those parties opens a correspondingly broader pool of potential funders and investors than the current parties predominantly charged with meeting the cost of road infrastructure and safe system interventions, for example a range of corporate investors and insurers.

<table>
<thead>
<tr>
<th>Benefit Category</th>
<th>Economic Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Additional life and quality of life.</td>
</tr>
<tr>
<td></td>
<td>Reduced vehicle and infrastructure maintenance and replacement costs due to improved infrastructure and vehicle quality; and</td>
</tr>
<tr>
<td></td>
<td>Reduced greenhouse gas emissions.</td>
</tr>
</tbody>
</table>


dimensions of safe system benefits

- Improved Road Safety
- Reduced FSI
- Improved Transit Time
- Reduced transit time
- Improved Product Quality
- Reduced product availability and reduced costs
- Improved Vehicle Costs
- Reduced vehicle maintenance and capital (re)investment costs and cost of goods sold
- Improved Infrastructure Life
- Increased access to road infrastructure
- Reduced Emissions
- Reduced pollution
- Improved Product Quality
- Reduced wastage and cost of goods sold
- Improved Availability and reduced costs
- Improved Goods sold
- Reduced transport costs and costs of
efficiency and reducing congestion and road usage.

Identifying critical challenges and gaps

If the importance of acting and the interventions to reduce road trauma are understood, what are the critical gaps to action that can achieve and accelerate progress?

Another factor is not identifying the five pillars of the Global Plan...
The need for action on road safety

**Box 4:**

**Figure 4: The potential benefit of investing to address the road safety problem**

<table>
<thead>
<tr>
<th>Country Income Category:</th>
<th>Low</th>
<th>Lower Middle</th>
<th>Upper Middle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of countries</td>
<td>33</td>
<td>49</td>
<td>47</td>
</tr>
<tr>
<td>Improve 10% of roads</td>
<td>108,000 km</td>
<td>610,000 km</td>
<td>992,000 km</td>
</tr>
<tr>
<td>Build viable countermeasures</td>
<td>$8 billion</td>
<td>$61 billion</td>
<td>$149 billion</td>
</tr>
<tr>
<td>Reduction in fatalities</td>
<td>384,000</td>
<td>1,483,000</td>
<td>1,528,000</td>
</tr>
<tr>
<td>Reduction in fatalities and serious injuries</td>
<td>4,224,000</td>
<td>16,313,000</td>
<td>16,808,000</td>
</tr>
<tr>
<td>Economic benefit</td>
<td>$83 billion</td>
<td>$663 billion</td>
<td>$1,766 billion</td>
</tr>
<tr>
<td>Benefit cost ratio</td>
<td>11</td>
<td>11</td>
<td>19</td>
</tr>
</tbody>
</table>

The need for capacity building support for the next 20 years to eliminate global deaths and serious injuries from road traffic injuries is achievable and resilient across border infrastructure, to support economic development and human well-being, with a focus on affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons.

**Goal 9.1:** Develop quality, reliable, sustainable and resilient transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons. By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons.

**DATA: BUILDING THE EVIDENCE BASE**

There is a lot of data on road safety and safe systems. There is significant data on the economic and social costs and consequences of road trauma and unsafe systems. Where such data is collected systematically, for example by organisations such as the TAC, it has already provided an economic cost benefit case for significant funding for safe systems.

However, the volume of available data and the considerable ongoing work that is being done to capture it masks important gaps. There is an absence of concrete ongoing work that tracks the impact of specific interventions in specific places that demonstrates better outcomes, both over the short term and longitudinally. There is also a need for data at a more granular level that clearly demonstrates who bears the costs due to safe system deficiencies and what the benefit could be for those parties if they, and others, can be assessed, nor how to set the risk adjusted return for an investment which is wholly or partly based on the outcomes delivered.

Developing the evidence base with appropriately designed data sets will also assist in tackling other challenges to attracting investment, not least the time lag from when the investment is required to when the benefits are fully realised. Appropriate data could also demonstrate shared interests across a range of potential funder and investors to underpin the case for co-investment initiatives.

**CAPACITY: THE IMPLEMENTATION TASK**

Capacity is another very practical challenge to be met for road safety objectives to be achieved. This includes available data and skilled resources to collect appropriate data in addition to building capability within many governments to help them to understand and apply safe system principles, to strengthen regulatory, licensing and enforcement frameworks and to scope and implement road improvement and road safety projects.

**Meeting the challenges**

Despite the good work and the range of initiatives and types of in...
We understand the issues we need to address.

There is a clear need to turn the increased focus that road safety is receiving as a result of the Decade of Action and the imminent SDGs into funding and investment.

• what funding and financing mechanisms are fit for purpose for the given project or intervention; and
• what the pre-conditions for success are in terms of being able to apply those mechanisms effectively.

Sources of funding and finance do exist, particularly for road infrastructure, but that capital is either not yet being directed to prioritise achievement of the safety goals agreed by the international community or it falls a long way short of what is required to meet those goals.

Unlocking that capital for road safety requires clear commitments to road safety could provide a critical ‘missing piece’ to attract new and different types of capital.

Backed with the relevant data, this type of analysis would contribute new information that links costs with particular parties, some currently outside the traditional partners in road infrastructure investment and other elements of road safety. It gives a line of sight to which parties have a direct financial interest in improving road safety or an indirect interest in reducing the associated trauma and costs.

Without such analysis, the argument for more up-front investment in safe systems is simply that a particular intervention to improved outcomes.

In theory, identifying where the costs of road trauma lies more complex. Beyond the individuals and families the beneficiaries of ‘evidence’ of its effectiveness. Clarity in the attribution of outcomes to particular interventions is also needed, that is, whether achieving the desired outcome is due to the intervention and not to some other external factors.

Gaps in data currently typically extend to:

• the relevant data, this type of analysis is based on data held at an aggregated level across road systems and in some respects is based on societal level costs and benefits rather than relating to particular interventions or effects. Such an argument is therefore not sufficient on its own to move the amount of investment needed.

There are some challenges in capturing and measuring a number of these cost components. In particular, variation in the level and quality of data are more relevant costs:

• indirect costs - associated with premature death, permanent impairment or temporary absence from work caused by crashes borne by injured parties or their family, dependents or carers; and
• economic valuations - particularly of lost quality of life.39

There are also challenges in attributing particular interventions to improved outcomes.

Gaps in data currently typically extend to:

• immediate and longer term costs incurred in treating injuries;
• indirect costs incurred in terms of foregone income and taxation and incurred welfare, carer and dependency costs; and
• variations in the methodology applied in different markets to give an economic value to lost quality of life.

These gaps impact on the ability to demonstrate specific costs, and, correspondingly, between the number of people that are injured and the severity of their injuries; and on whom these costs currently fall, more and more.

We know what we need to do to address the issue. It gives a line of sight to which particular parties, some currently outside the traditional road safety stakeholders, have a direct or indirect interest in improving road safety or in reducing the associated trauma and costs.

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We can assess the benefit of reducing FSIs and can value that indirectly.

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particulariy acute between neglect income and lower income countries. Variables include the level of services and support provided to help injured parties and their families recover from road trauma. For example, in the case of less developed lower income countries, where taxation and welfare or safety net provisions are lower and insurance coverage is more basic, the direct cost to government and insurance related interests is likely to be lower and more of the cost burden is likely to rest with the injured party and their family.

If implemented across different countries and different types of interventions, such a data set would shape a dynamic picture of those parties with an incentive to see increased road safety investment and could help build a compelling case for change.\(^{40}\)

Optimally, this work would be designed in a way which will shape an internationally valid methodology, drawing from and enhancing existing methodologies and data. Not only would that result in a meaningful evidence base over time, demonstrating the impact of particular interventions and enabling the impact and cost to be compared across contexts; with such an evidence base, more streamlined and efficient feasibility and cost benefit assessment of investment opportunities for road safety become a real possibility.

The work ahead can be informed by further interrogation of existing data sets. For example, taking a disaggregated view of data which is currently held on an aggregated basis to provide a more granular analysis of costs and identify remaining gaps.

Similarly, an analysis of data collected for studies on specific interventions, such as those focused on helmet and seatbelt wearing, would reveal how far the data that is currently being collected can inform investment model design. It would also show whether there is a need to adapt what is collected and how in order to develop an investment case. It is important to note that systems designed for monitoring and evaluation of programmes will typically require greater rigour if the results are also to underpin investment.

<table>
<thead>
<tr>
<th>INCOME</th>
<th>DEPENDENCY</th>
<th>PROPERTY</th>
<th>ADMINISTRATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Loss of GDP and taxation revenue</td>
<td>• Welfare (safety net) payments to injured parties, dependents and carers</td>
<td>• Infrastructure repair and remediation costs</td>
<td>• Welfare administration costs</td>
</tr>
<tr>
<td>• Uninsured loss of income (including carer income)</td>
<td>• Uninsured dependency and carer costs</td>
<td>• Uninsured vehicle repair and replacement costs</td>
<td>• Uninsured legal costs</td>
</tr>
<tr>
<td>• Income insurance payments</td>
<td>• Life and dependency insurance payments</td>
<td>• Insurance claims administration and legal costs</td>
<td></td>
</tr>
<tr>
<td>• Workplace disruption</td>
<td>• Uninsured dependency and carer costs</td>
<td>• Uninsured vehicle repair and replacement costs</td>
<td>• Uninsured legal costs</td>
</tr>
</tbody>
</table>

The combined effort on costs, building new data to a broader set of investors will allow:

- the nature and scale (if any) that different outcomes and benefits described above could demonstrate;
- the project's relative investment potential;
- how each of the proposed costs is relative to the investment.

These are central issues that different types of funders allocation and investment decisions.

**FIGURE 6: MAKING COST PROFILES OF ROAD TRAUMA CONCRETE**

![Image of a table with categories and costs related to road trauma](image)
Investors and/or function of investors issues and by their own mandate allocations and appetite can funders hat role. For y be willing to also have an building, but investments, vital base. 

interferences may have a direct mandate that aligns with road safety. This could include donor organisations and Development Finance Institutions (DFIs), philanthropic trusts and foundations and non-government organisations. Many such agencies are already paying for remedial interventions to address the costs of road trauma and so they may be amenable to redirecting funding to prevention rather than remediation based activities.

The TAC is an example of a non-governmental funder of safety interventions, including safer roads, that directly benefits from investment in safer roads (Box 5). They work collaboratively with other bodies in the road management value chain, particularly VicRoads who plan, develop and manage the road network in the state of Victoria, Australia. While safety is critical to the TAC’s mission of making ‘every journey a safe one’, the case for direct funding is grounded in its direct financial interest in reducing road trauma. This reflects an evidence based cost benefit analysis and a minimum Benefit Cost Ratio of at least 3:1 for any particular project.

Investors

A range of investors may be interested in the potential of investment that improves road safety and reduces road trauma. These investors are not one homogenous class. They will have different expectations of return and appetite for risk, and investment mechanisms will also need to be structured to meet their particular requirements.

Some lenders are already providing finance for specific road safety purposes. For example, the World Bank loan to Argentina to develop road safety systems and capability and the Global Road Safety Facility (Box 6). Current funders that control capital may view complementary investment as a way of increasing their impact, making a greater capital contribution and attracting other investors by signalling their interest and being prepared to lead. For example, foundations or development institutions and even larger non-government organisations could complement grant or program funding with investment focused on road safety to increase their impact and enable more to be done.
The Transport Accident Commission of Victoria (TAC) was established, and is governed by the Transport Accident Act 1986. It administers a comprehensive no-fault compensation scheme for Victorians who are injured or die as a result of a transport accident. It has a broad statutory mandate to improve road safety for the benefit of the Victorian community and has implemented a range of groundbreaking initiatives aimed at road user attitudes and behaviour and improved vehicle safety.

In 2013/14 the TAC paid out over $1.1bn for 47,115 claimants. That equates to approximately 0.3% of GSP and amounts to $23.4K per claimant per annum or $188 per head of population in Victoria.

Since the early 1990’s the TAC has funded a series of infrastructure projects through VicRoads (the State Roads Authority) targeting high risk blackspots and blackspot areas as part of its strategy to reduce FSIs and manage downstream costs. Those investments have been supported by evidence-based cost benefit analyses which have primarily relied on data relating to crash histories at a site or along a length of road. TAC historically required a minimum projected BCR of 3:1 for any single project. The business case and outcomes are based on actual crash data and are evaluated against established criteria by the Monash University Accident Research Centre (MUARC).

A recent example is an AUD$36M investment under the TAC Safer Road Infrastructure Program (SRIP) to deliver a range of road safety improvement projects along the entire length of this section of Princes Highway East (PHE). This includes traditional road safety treatments (e.g. roadside barriers, shoulder sealing and rumble strips) to target the specific crash types.

Preliminary post-completion analysis of the improvements made to two road sections under that investment costing just under AUD$20M indicates the following improvements:

- actual reduction in serious injuries of 44% (with the AusRAP/iRAP model predicting 42%)
- elimination of all AusRAP/iRAP 1- and 2-star sections
- a 36% increase in road length at 4-star or better (safest)
- an estimated 56 serious casualties saved per year for each AUD$100m invested


<table>
<thead>
<tr>
<th>CRASH TYPES</th>
<th>% CHANGE</th>
<th>SERIOUS CASUALTY</th>
<th>SERIOUS CASUALTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>LANE DEPARTURE</td>
<td>-44%</td>
<td>-49%</td>
<td></td>
</tr>
<tr>
<td>ALL DCAs</td>
<td>-35%</td>
<td>-44%</td>
<td></td>
</tr>
</tbody>
</table>

BREAKING THE DEADLOCK

RESEARCH SERIES

BUILDING THE CASE FOR INVESTMENT IN ROAD SAFETY

The GRSF housed in the World Bank is one of the leaders in promoting and encouraging adoption of the safe system, both within the MDB network and with client governments. It works to embed road safety within World Bank lending.

GRSF funding has been channelled to more than 30 countries across all World Bank regions and resulted in over USD$500m in road safety spending since 2006. It has also played an important and necessary role in helping low-middle income countries to review and address capacity gaps. The following example from Argentina demonstrates how this can be used to strengthen program design and strategic delivery.

ADAPTABLE LOAN FOR ARGENTINA'S NATIONAL ROAD SAFETY AGENCY (ANVS)

In 2008 an estimated 5,760 people died from road crashes in Argentina, compared with an estimated 3,200 fatalities in 2002. Mounting disquiet over the road toll led to establishment of ANSV in 2008.

The ANSV approached the World Bank for technical assistance and funding for its road safety management plan. The World Bank approved a two-phase loan for a specific road safety project. Phase I (2010-2015) investment totalled USD$38.5m, with a further USD$30m available for Phase II, contingent upon certain pre-defined ‘triggers’ based on significant improvements to road safety systems in Phase I.

The World Bank loan funds a broad range of interventions from across the safe system approach, 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, and post-crash interventions, including improved emergency response systems.

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 population in 2008 to 11.6 in 2011. By 2013 the project had achieved the ‘trigger points’ for approval of stages of the loan drawdown and a second phase to the project was in development.

INNOVATIVE WORLD BANK ROAD SAFETY INITIATIVES

Police enforcement is one element of the holistic safe system road safety initiative launched in Argentina. Source: Bliss T, Raffo V 2013
INTRODUCING SOCIAL IMPACT INVESTMENT

Types of social impact investments

Social impact investments can be found across a range of investment approaches, including asset-backed investment, direct investments, and asset-backed investment. The imperative to identify new solutions to complex social challenges and to improve the effectiveness and ability to deliver impact.

Some social impact investors seek competitive financial returns in addition to their focus on impact; others are willing to accept below market returns where that is necessary to achieve greater impact from their investment.

Impact investors represent a broad church and include progressive foundations and family offices, companies, banks, DFIs, insurance companies, pension and investment funds, governments and individuals. They have different priorities and varying appetites for risk and return (both social and financial).

Measurement of impact is an emerging science. It often involves a focus on ‘outcomes’ rather than ‘inputs’ or ‘outputs’. That is, measuring elements such as improvements in health and prevention, safety, community engagement or understanding rather than numbers of clients, levels of participation or output of education or other activity. It is not uncommon that data is less available and attribution more difficult for outcomes than activity-based measures.

Some social impact investors seek competitive financial returns in addition to their focus on impact; others are willing to accept below market returns where that is necessary to achieve greater impact from their investment.

Impact investors represent a broad church and include progressive foundations and family offices, companies, banks, DFIs, insurance companies, pension and investment funds, governments and individuals. They have different priorities and varying appetites for risk and return (both social and financial).

Social impact investments can be found across all financial product types. The difference is that a third dimension - impact - is added to the more conventional dimensions of risk and return employed in investment decision making.

Social impact investment mechanisms likely to have particular relevance for the road safety context include asset backed investment, direct investments and innovations designed on social impact investment principles including impact bonds. As in mainstream capital markets, funds and bond structures can be used to pool capital from a range of investors. This enables a portfolio approach to risk and return and also impact.

Social impact investment also has the potential to provide structures that can bring together parties with different appetites for risk, return and impact. This includes philanthropists, governments and other funders coming together with investors to provide an overall mix of capital that meets their combined priorities and risk appetite. For example, grant funding can provide credit enhancement to de-risk an investment proposition and can fund initiatives that build capacity in enterprises or other bodies to enable investment to be deployed effectively. This can be used to terms that would philanthropy or in project financiers in different tranches for different investors that to financial return.

FIGURE 8: SPECTRUM OF ALTERNATIVE INVESTMENT APPROACHES

<table>
<thead>
<tr>
<th>SUSTAINABLE</th>
<th>IMPACT</th>
<th>IMPACT-ONLY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mitigating Environmental, Social and Governance risks</td>
<td>Addressing societal challenges that generate competitive financial returns for investors</td>
<td>Addressing societal challenge(s) that have a financial return for investors</td>
</tr>
<tr>
<td>Pursuing Environmental, Social and Governance opportunities</td>
<td>Focusing on measurable high-impact solutions</td>
<td>Below market financial returns</td>
</tr>
</tbody>
</table>

| BOX 7: SOCIAL IMPACT INVESTMENT MECHANISMS |
| ASSET BACKED | IMPACT BONDS |
| Asset-backed social impact investment has strong potential and has been an important form of finance in areas such as affordable or supported housing and renewable energy, including in developing markets. | Social and development impact bonds are a novel form of social impact investments. Despite the name they are often not bonds in the traditional sense. |
| The underlying assets and/or revenue | A typical impact bond is a partnership between an outcomes funder (usually government or can be foundation or donor agency), a service provider and investor(s). Investors provide |
INTRODUCING SOCIAL IMPACT INVESTMENTS

BOX 8: SOCIAL IMPACT BONDS: PETERBOROUGH (UK), SOUTH WALES, evoloved the model with a two-tier capital structure: a higher risk, higher return instrument as a first loss tier which enabled a less risky, lower return instrument to be invested in by a wider audience.

In the US, the New York State SIB focused on reducing recidivism and achieving employment outcomes for ex-offenders and is delivered by the Center for Employment Opportunities. This SIB evolved the model further, with foundations playing a role and with some investors accessing the investment through Bank of America Merrill Lynch’s wealth management platform.

A further evolution has been the adaptation of the impact bond model to the development context, as a Development Impact Bond (DIB). These are already being applied to diverse social issues including education outcomes in India and sleeping sickness in Uganda.


EVILOUTION OF SIBS

This first SIB brought together five service providers in an adaptive learning environment to pilot a bespoke solution for an underserved population: high-frequency short sentence offenders. SIBs which have been developed since, in the UK and elsewhere, have targeted different social issues and also show an evolution in financial structures reflecting differing issues and measurement environments, investor risk appetite and delivery models.

One of the first SIBs in Australia, focused on children in care and delivered by the Benevolent Society of New South Wales, evolved the model with a two-tier capital structure: a higher risk, higher return instrument as a first loss tier which enabled a less risky, lower return instrument to be invested in by a wider audience.

In the US, the New York State SIB focused on reducing recidivism and achieving employment outcomes for ex-offenders and is delivered by the Center for Employment Opportunities. This SIB evolved the model further, with foundations playing a role and with some investors accessing the investment through Bank of America Merrill Lynch’s wealth management platform.

A further evolution has been the adaptation of the impact bond model to the development context, as a Development Impact Bond (DIB). These are already being applied to diverse social issues including education outcomes in India and sleeping sickness in Uganda.


DEVELOPMENT IMPACT BOND (DIB) CASE STUDY: UGANDA, SLEEPING SICKNESS

Human Sleeping Sickness is a neglected tropical disease transmitted by tsetse flies that is ultimately fatal in the absence of treatment. There are two forms of this disease, Gambian and Rhodesian, and in Uganda there is a danger that the two strains will overlap, with significant treatment and cost implications. This DIB aims to eradicate sleeping sickness from central Uganda, to prevent human deaths and the overlap of the two strains of the disease. The initial phase (Y1-3) of this DIB involves mass treatment of cattle, which are the main carriers of the disease, followed by a second phase of long-term behaviour change to improve the way that rural farmers spray their cattle to prevent tsetse flies from spreading sleeping sickness.

This DIB will use a Development Impact Bond (DIB) to identify local communities with tsetse flies in Uganda, and to adapt activities to the farmer requirements of particular regions. The paucity of current data in Uganda is typical of many developing countries, therefore the DIB model, designed to adapt activities to the farmer requirements and to reduce the overlap of the two strains of the disease, aims to eradicate sleeping sickness from central Uganda, to prevent human deaths and the overlap of the two strains of the disease. The initial phase (Y1-3) of this DIB involves mass treatment of cattle, which are the main carriers of the disease, followed by a second phase of long-term behaviour change to improve the way that rural farmers spray their cattle to prevent tsetse flies from spreading sleeping sickness.
Impact bonds have also gained considerable attention in the international development arena, as an additional instrument which complements existing results-based aid models, such as cash on delivery aid. DIBs offer the possibility of financing for results-based aid, as well as the additional focus on performance which comes from investors’ capital being at risk to achievement of outcomes.

Examples of impact bonds in practice and their evolution (Box 8) illustrate the importance of grounding the design in the local context, research and practice on the social issue in frame, and the data and measurement practicalities. Experience also highlights the need to build local partnerships and strong delivery models which take account of these factors and the local conditions in which it will operate, yet remain investable.

As the model has been adapted to different social issues and in different countries, with differing access to investment capital, it has both evolved and shown its versatility. In the road safety context there is an opportunity to draw on the learnings of different impact bond models (examples in Box 8), many of which will be relevant.

**Scale of the social impact investment market**

Based on 2015 figures, there is over USD$60bn invested in impact investment globally with about half invested in developing markets and half in developed markets. Social impact investment is being explored to support the delivery of social outcomes across a range of issues, including health, housing and employment. The greatest sums are invested in sectors with established revenue streams and/or are asset backed - housing, microfinance and financial services, energy.

Although there has been significant growth in the field, the numbers are clearly small compared to the overall capital markets and the projected investment requirements for road safety, and the most recent global survey indicated that only 1% of assets currently allocated to impact investment is invested in infrastructure. Developments are occurring rapidly and as links are made across different countries and sectors, the pace and potential to adapt models for different contexts is accelerating. The import of this goes beyond money. The potential of social impact investment extends to re-imagining public private partnerships beyond economic and financial risks and interests. It combines new and old participants and ideas to achieve different ways of engaging that can deliver outcomes beyond what the traditional approaches or individual parties can deliver alone, and do so for the benefit of society.
Designing social impact investment mechanisms for the road safety context could include adaptation or additions to project finance structures well known in the infrastructure sector and pooled funding approaches used in the development context. One option is a modular approach that has both a conventional finance component and a social impact component appealing to different groups.

Over time, a structured approach to looking beyond the facilities or infrastructure being built to the nature and quality of the impact on the lives of people affected could support design, demonstration and scaling of more options to invest in safe systems.

In addition to reframing investment in road infrastructure and behavioural interventions, social impact investment approaches could be developed to build other aspects of the safety ‘eco-system’ and capacity to implement safe structures.

**FIGURE 11: FRAMEWORK FOR CONSIDERING SOCIAL IMPACT INVESTMENT MECHANISMS BASED ON MARKET AND INTERVENTION**

<table>
<thead>
<tr>
<th>DEVELOPED COUNTRIES</th>
<th>DEVELOPING COUNTRIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential:</td>
<td>Potential:</td>
</tr>
<tr>
<td>• Good potential alongside traditional asset backed models</td>
<td>• High potential of outcomes contingent models</td>
</tr>
<tr>
<td>• Potential for outcomes contingent component (i.e. SIBs) where there is value to focus on outcomes</td>
<td></td>
</tr>
<tr>
<td>Pre-conditions:</td>
<td>Pre-conditions:</td>
</tr>
<tr>
<td>• Longitudinal data - support predictive modelling</td>
<td>• Clearly defined intervention model</td>
</tr>
<tr>
<td></td>
<td>• Data</td>
</tr>
<tr>
<td></td>
<td>• Mitigation of</td>
</tr>
<tr>
<td></td>
<td>Risk mitigation</td>
</tr>
</tbody>
</table>

Potential:
- Some potential for outcomes contingent models for behavioural interventions or where an adaptive learning model is appropriate
- Country impl need to be overcome for outcomes contingent models

Pre-conditions:
- Data
- Robust intervention model with evidence of effectiveness among the target population

As a general rule, road safety as a financial tool could be considered to be fit for purpose.
**IMPACT BONDS**

- The impact bond model is most suited to situations where there is an element of implementation risk, therefore uncertainty about impact being achieved.

- Impact bonds can involve a number of delivery organisations, and are highly dependent on context.

- Impact bonds allow funders to share the risk of a programme’s effectiveness to deliver outcomes with investors. As such, it may have particular application in developing countries, where country governments do not have the resources or capacity to invest in road safety.

- It could allow international donors, foundation and other funders to allocate their resources efficiently to projects that achieve results, as well as build up an evidence base.

**DIRECT INVESTMENT**

- Direct Investment to support and promote road safety through e.g. debt or equity investment in social enterprises, NGOs or ‘profit with purpose’ companies that are working to improve road safety.

- Examples could include start up capital to a helmet manufacturing facility where there is a lack of local suppliers; or providing working capital to a construction company which has a contract to maintain roads in a remote area of a developing country, yet unable to source bank finance through other channels because of the risks of the environment in which they operate.

- Social investment may have a role to act as first movers or invest in particular fragile states. Over time, as road safety continues to climb the international agenda mainstream investors such as car manufacturers could become involved, or venture capital and/or institutional investors.

**WORKED EXAMPLES OF POSSIBLE SOC**

**DIRECT INVESTMENT: CAMBODIA MOTORCYCLE HELMET MANUFACTURERS**

Motorcycle helmet use is much lower in Cambodia than in neighbouring countries like Vietnam. A number of factors contribute to this, but a principal barrier has been identified as the lack of helmet manufacturers in the country, meaning that helmets are too expensive for many motorcycle users: despite 98% public approval of a passenger helmet law, actual helmet use is very low. Investment in increasing the availability of affordable, quality helmets in countries like Cambodia could significantly improve the rate of helmet use and significantly reduce the adverse economic and social impact of RTIs.

**PAYMENT-BY-RESULTS FOR ROAD MAINTENANCE**

Chad has begun to contract out road maintenance contracts to private organisations on output-based contracts, rewarding year-round continued safety and accessibility of major roads. There is also the potential for investment to build the capacity of NGOs to take on more road safety responsibilities in fragile states (contracted by donors), such as monitoring the safety of a road network, or even accident emergency response providers.


**DEVELOPMENT IN COP25 HELMET USE AMONG YOUNG PEOPLE IN VIETNAM**

Helmet use among young people in Vietnam increased dramatically in response to legislation in 2007, however, under remained an important issue. A robust baseline for this programme could collect data on the number of children engaged in the programme or helmets distributed, and easily verifiable outcome would be the reduction in the number and severity of RTIs among the target cohort (including soft outcomes targeting the number of children). The programme could be efficient to deliver outcomes targeted by social impact investors and could also be a feasible model for other road safety initiatives in the region.
APPLYING SOCIAL IMPACT INVESTMENT TO ROAD SAFETY

Where these conditions are not present, one option to effect the effectiveness of alternative interventions, with either impact bonds and road safety that could be explored is a demonstration model, for grant funders or investors seeking high impact and willing to take high risk taking the role of investor. Impact bonds could form part of the road safety investment toolbox provided they are designed fit for purpose and are underpinned by robust data, intervention models and measurement frameworks. However they are not a silver bullet. The scale of investment alone required to be reoriented or added to current investment would bring together funders who wish to invest in road safety. The work starts where the data and evidence exists; the pre-conditions for success (Figure 12) are in place.

Equally, an impact bond requires reliable, quality data and data sources which are relevant to the intervention and the target group, the ability to measure (and something against which the effectiveness of the intervention can be measured, such as a reliable baseline or, in some cases a comparison or control group), as well as interventions which can deliver, within a reasonable time frame, outcomes that the funder is willing to pay for and which investors are willing to finance on a risk basis.

FIGURE 13: EVOLUTION OF A SOCIAL IMPACT INVESTMENT MODEL FOR ROAD SAFETY

**FUNDERS**
- Road safety investment
- Road safety outcomes
- Project feasibility
- Best practice for data systems and access
- Development of outcomes measurement frameworks
- Validation
- Dissemination and transparency

**INVESTORS**
Finance for road safety projects - various investment mechanisms

**IMPACT BONDS**
- Clearly defined target group
- Robust outcome metric, including reliable data
- Evidence based interventions
- Issue area a priority for funder(s)
- Issue area a priority for investors

**BUILD THE EVIDENCE**

The aspiration for social impact investment is that where ‘right size’ demonstrations can establish proof of concept, build capacity and systems, that will provide a foundation for bolder leads to translate the

The data and evidence to build up the goal of building would bring tog...
A new approach will involve: & there is which can be measured and whether that
would motivate a social impact investor, and if so,
on what terms; and
- working through the most suitable form of
impact investment instrument for the particular
circumstance.

Where that can be done across a range of potential
road safety interventions and market contexts, the
learning from the process itself will inform future
action.

**FIGURE 14: KEY PROCESS QUESTIONS FOR SOCIAL IMPACT INVESTMENT**

<table>
<thead>
<tr>
<th>1. PROBLEM DEFINITION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OBJECTIVE</strong></td>
</tr>
<tr>
<td>Required to build a more effective solution to the problem</td>
</tr>
<tr>
<td>other actors are affected/interested/could be involved</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. IMPACT INVESTING FEASIBILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OBJECTIVE</strong></td>
</tr>
<tr>
<td>attract other sources of investment?</td>
</tr>
<tr>
<td>outcomes that can be evaluated?</td>
</tr>
<tr>
<td>investors’ requirements and risk levels</td>
</tr>
<tr>
<td>gaps need to be addressed?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3. INVESTMENT MODEL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OBJECTIVE</strong></td>
</tr>
<tr>
<td>ancillary model</td>
</tr>
<tr>
<td>impact investment solution require? (For example, is there a service delivery</td>
</tr>
<tr>
<td>component, infrastructure component, etc.)</td>
</tr>
</tbody>
</table>
Five steps for action

1. Develop targeted case studies to better understand what existing data can tell us. This could include case studies of leading examples from around the globe including the TAC, the World Bank and leading studies of behavioral interventions for safe system elements such as helmet and seatbelt wearing.

2. Identify projects currently in development to serve as a demonstration of how a social impact investment approach could be applied in the road safety context. It would be instructive to select an infrastructure approach and a behavioral intervention and target at least one instance of developed and developing economies.

3. Design a methodology and toolkit for collection of data. This should have the following twin priorities:
   - Filling out the ‘missing piece’ to demonstrate who bears which costs.
   - Developing a simple calculator to ‘size’ the potential benefit to particular stakeholders of a particular intervention in a given setting.
   - Building foundations for an evidence base relating to particular interventions and outcomes achieved.

4. Use the imperative of the Decade of Action and focus on road safety in the SDGs to gain multi-stakeholder commitment and resources to develop the evidence base.

5. Develop a roadmap to progress from concrete illustrations of the complex ideas involved in investing in safe systems to advocate for and develop options that will deliver change at scale.
5 of Road Crashes), http://www.irap.org/en/about-irap-2/a-business-case-
'k/road-safety-fund/un-decade-of-action/
X of Road Crashes)
org/data/spi#map/countries/com4/dim1,com4,dim2,dim3
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5 'k/road-safety-fund/un-decade-of-action/
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'а-business-case-for-safer-roads
rk/road-safety-fund/un-decade-of-action/
ost of Road Crashes)
about-irap-2/a-business-case-for-safer-roads
'а-business-case-for-safer-roads. Data for some countries is not available.
aths is less than the WHO’s 2013 worldwide estimate. The International Road
s roads all over the world and aims to significantly reduce road casualties by
re. iRAP was formed in 2006 as an umbrella organisation for EuroRAP, usRAP
n middle and low income countries
ost of Road Crashes)
research-and-technical-papers?download=195:the-business-case-for-

se_of_action/plan/en/

research-and-technical-papers?download=267:irap-star-rating-policy-targets-
t-irap-3/research-and-technical-papers
/star-ratings; Star ratings are one of four global protocols developed by iRAP in
search organisations to assess and improve the safety of roads. Other protocols

I concessions have been implemented where the concessionaire pays a penalty.
's for a detailed case study
aSetCode=ITF_INV-MTN_DATA
n/am-i-covered/index.htm
RTS) management systems - Requirements with guidance for use – page 10
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hasing Policy, Global NCAP, 2014
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administration and legal expenses) and whether costs are publicly or privately
38 Aeron-Thomas, Jacobs, Sexton, Gururaj, Rahman, The involvement and impact of road crashes on the poor: Bangladesh and India case studies, TRL PPR 010, 2004
39 Nunez et al, Economic impact of fatal and non-fatal road traffic injuries in Guadalaraja, Mexico. Injury prevention, 17(S), 297-303, 2011
41 World Bank, 25 Feb 2015, Road crashes have more impact on poverty than you probably thought http://blogs.worldbank.org/transport/roadcrashes-have-more-impact-poverty-you-probabl
42 WHO 2013, p.vii and Harvard 2011, p.5
43 WHO 2013, iRAP 2013 (The Global Cost of Road Crashes)
44 'Allocating for Impact', September 2014; Subject Paper of the Asset Allocatio
47 Adapted from Saltuk et al, 2011 and Social Impact Investment Taskforce 2014
48 JP Morgan & GIIN 2015, & Saltuk et al 2015, pp.5-6f
49 Saltuk et al 2015, pp.5-6f
50 UK Cabinet Office 2013, GIIN 2013
51 Source: Social Finance UK
52 Adapted from Australian Department of Employment Education & Workplac
53 This will need to identify and differentiate cost categories (such as property, h
hospital bed day, income loss, dependency, welfare, funeral and related costs an
and whether costs are publically or privately incurred, insured or uninsured cost
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Mexico, Injury Prevention, 17(5), 297-303., 2011


Social Progress Imperative, Social Progress index 2015


World Health Organization, ‘Road crashes have more impact on poverty than you probably tho World Bank, Decade of Action for Road safety 2011 – 2020: Sau
This paper was commissioned and funded by the FIA Foundation as a contribution to practical action and investment for road safety. The International Road Assessment Program (iRAP), in particular John Dawson and Rob McInerney provided significant support on road safety, safe systems and the current data on road safety and the costs and benefits of improved road safety.

This paper has also been informed by data and insights from a number of people and organisations, including: staff at the Victorian Transport Accident Commission (TAC), VicRoads, RACV, ARRB Group, AusRAP, AIP Foundation and the Center for Injury Policy and Prevention Research at the Hanoi School of Public Health.

The analysis in this paper has also benefited from the contributions of many in the literature and research in the fields of road safety and social impact investment. Papers and reference material relied upon for this work are included in the References section.
FIA Foundation commissioned this work to take a different lens on opportunities to unlock capital to achieve a global breakthrough on road safety and reduce the costs of road trauma. FIA Foundation works with a range of international partners including the World Bank and other Development Finance Institutions, AIP Foundation, iRAP, Global NCAP and is a leading contributor to major global campaigns for road safety including contributing to the Sustainable Development Goals and invites collaboration to translate the ideas in this paper to action.

Impact Strategist designs breakthrough social innovation and impact investment strategies to tackle complex social problems and create new social and economic value. Impact Strategist is led by Executive Director, Rosemary Addis, a recognised thought leader and trusted adviser to senior leaders cross sectors globally.

Rosemary Addis led the team for this initiative which included Social Finance UK, and Regina Hill, Effective Consulting Pty Ltd. Rosemary is a member of the Social Impact Investment Taskforce, established and chairs Impact Investing Australia and the Australian Advisory Board on Impact Investing and is a member of the NSW Government Social Investment Expert Advisory Group. Her work also led to publication of Place Based Impact Investment in Australia (2012) and Networked Incubation in Government: a case study of the incubation of Children's Ground (2013).

Social Finance is a not for profit organisation working in partnership with government, the social sector and the financial community to enable sustainable social impact at scale. Since formation in 2007, Social Finance has mobilised over £62 million of social investment and designed a series of programmes to tackle social challenges.

Social Finance developed the social impact bond (SIB) model and launched the world's first SIB in 2010, targeted at reducing reoffending rates for those leaving prison. Since then, Social Finance programmes have been launched and scaled up worldwide.

The Social Finance team for this initiative is led by Jane Newman, International Director, and Tom Davies.
