

PRIVATE CAPITAL MOBILIZATION IN ROAD SAFETY IN INDIA

World Bank Thematic Presentation



August 9, 2021

Market failure: Road transport has negative externalities (social costs of road crashes) that are not directly assumed by the agents causing them, while parties affected by crashes and that could benefit from improved safety are not directly funding it, negating incentives to finance interventions

Problem

Who Pays



The Health Sector



Insurance



Workplace compensation (OHS) and productivity loss



Socio-economic costs and long-term Care

Lack of accountability of stakeholders causing Road Safety market failure

Costs born by agents different from those causing road crashes, eliminating incentive to avoid

Evidence-based road safety interventions can avoid costs (fully or partially).

Payment can come from the agents causing the externality or from the ones bearing its costs, with the distributional implications very different in each case

Sustainable finance can facilitate funding of road safety interventions, aligning safety and commercial interests

Where is the source of failure and who has the solutions



Vehicle standards (incl 2-wheelers)



Enforcement and compliance



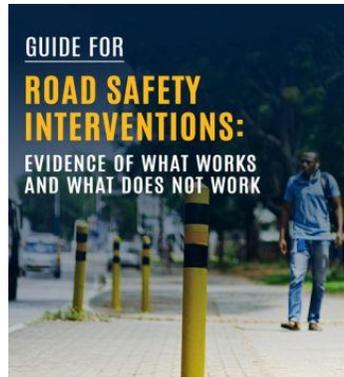
Road engineering standards and Performance



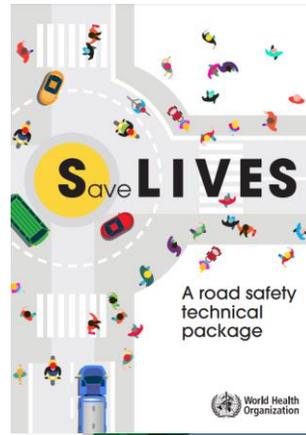
Pre-hospital care and compensation

Solution

Stage is set to resolve this failure: evidence-base to inform the right solutions for LMICs is now well-advanced to explore monetization of the benefits and the private sector increasingly wants investments that not only do well, but also do good



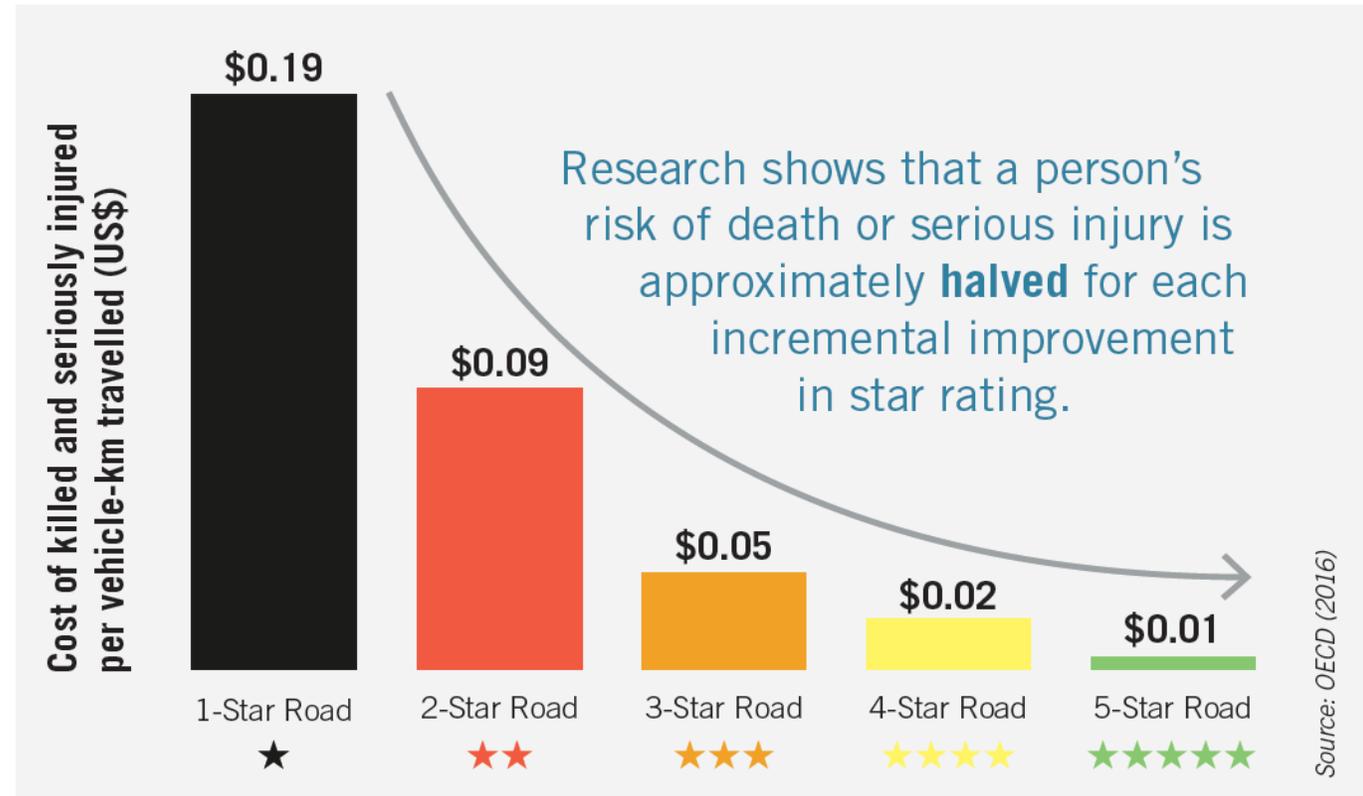
	Frontal Impact (No.94) Side Impact (No.95)	Seat Belt & Anchorages (No.16 & 14)	Electronic Stability Control No.140 (GTR. 8)	Pedestrian Protection No.127 (GTR. 9)	Motorcycle Anti-Lock Brakes No.78 (GTR.3)	Autonomous Emergency Braking Systems
Regulation for	2018	2018	2018	2018	2018	Highly Recommended
Year	2020	2020	2020	2020	2020	Highly Recommended



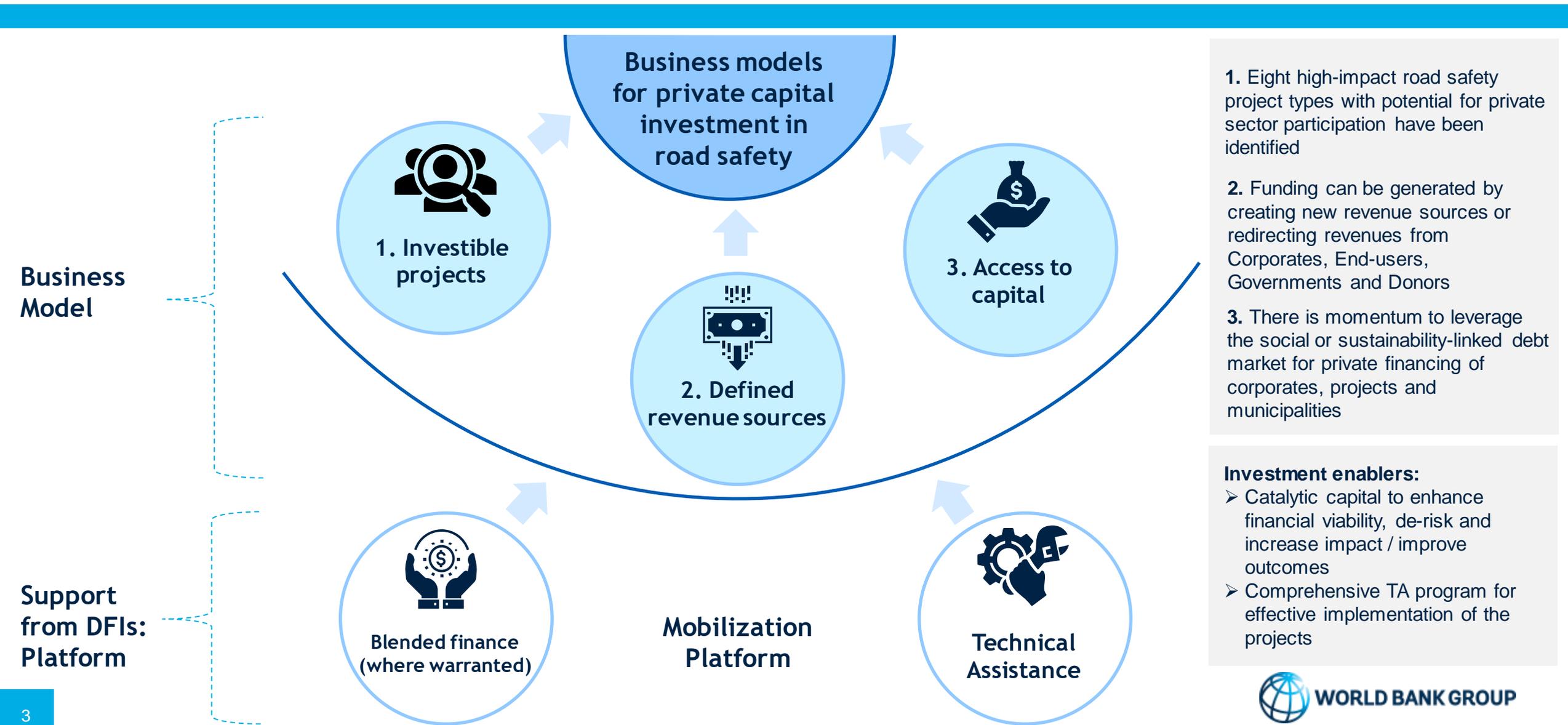
RAP Vaccines for Roads

100+ countries, 1.4 million deaths, 1 million injuries, \$575+ billion lost, 22,000 deaths, 695 million people.

Because saving lives counts.



WBG launched a project to address failure and capitalize on trends: Identifying high impact capital investments, defining revenue (funding) sources, building or aligning incentives and adding donor support and technical assistance to mobilize private finance



The World Bank is engaging with private investors in the capital markets to raise awareness about road safety as a key development topic with direct linkage to the SDGs

The World Bank Treasury maintains a long-term partnership with the private sector driving growth in green and sustainable markets and innovation to mobilize financing for sustainable development

Through this partnership, the World Bank helped catalyze the Green Bond Market and has spearheaded disclosure and impact reporting standards for green and other sustainable assets.

The World Bank (IBRD) issues Sustainable Development Bonds aligned to the Sustainability Bonds Guidelines to raise awareness for the SDGs

Examples of dedicated themes, showing total volumes issued to-date



Through this project, World Bank Treasury is engaging with investors to raise awareness around the topic of road safety

At the same time, IFC is pitching “Saving Lives” financings as part of its mandate to mobilize private sector capital to address development challenges

IFC has accumulated strong credentials in the sustainable debt market, helping define the associated frameworks and regularly tapping this market to fund its investments. It has also developed an impact measurement system for its investments and a sustainability-linked financing product for infrastructure

GREEN BONDS

\$10.6Bn
IN VOLUME
178
ISSUANCES

- ✓ Member Green Bond Principles Executive Committee and IFI Green Bonds Impact Reporting Harmonization Framework

SOCIAL BONDS

\$3.3Bn
IN VOLUME
48
ISSUANCES

- ✓ Coordinator of the Working Group on Social Bonds

AIMM FRAMEWORK

1400 projects scored
30 Sectors
200 Gap indicators
600 Intensity indicators

- ✓ Systematic rating of all IFC investments to ensure impact and alignment with sustainable development priorities

Social and Sustainability-linked financings

- ✓ IFC can use its **experience in green financings to structure road safety-related social and/or sustainability-linked financings:**
 - ✓ Incentive mechanisms based on pricing step-downs /step-ups associated with attainment of sustainability performance targets

Sustainability Coordinator

- ✓ IFC can **assist its clients with articulating a Sustainability Framework and Performance Targets specific to Road Safety**
- ✓ IFC can **liaise with Second Party Opinion providers** to ensure compliance with principles
- ✓ **IFC can provide transaction advice:** structured a PPP in Brazil including remuneration for road safety interventions

Project Development

- ✓ IFC has a **dedicated budget to co-finance innovative project development costs** with a private entity

International experience with using private financing for improving road safety

Colombia Pilot: ANSV funding may be used to generate additional investment in road safety from new and existing private concessionaires and contractors



 **Capacity development**
to improve data availability, governance and capacity

 **Performance-based funding**
provided conditionally upon achievement of outcomes

 **Viability gap funding (VGF)**
to support financial viability of private investments in road safety

OBJECTIVE

- To strengthen the enabling ecosystem to support effective implementation and monitoring of road safety projects

- To incentivize private concessionaires to deliver improved road safety outcomes

- To unlock private sources of capital towards effective projects by increasing the viability of projects that have inadequate sources of revenue

RECIPIENTS

- Public authorities requiring technical assistance for project preparation, and mobilization of additional revenue sources.

- Provide funding to remunerate additional road safety investments done by concessionaires/private contractors (under ANI concessions or INVIAS contracts)

- Provide upfront or periodic VGF funding channeled through Granting Authorities (ANI or INVIAS) to make private investments viable

APPLICATION

- Initiatives that **have a leverage effect (generate additional investment for each Peso of ANSV money invested)** or that provide incentives to extend reach / improve outcomes of existing private investments

- Projects with **attributable and measurable outcomes** and where data and enforcement capabilities are supportive

- Projects with proven **high impact potential** but **expected revenues are unlikely to meet the return expectations** of the financier

Piracicaba-Panorama (“PiPa”) lot Brownfield Project

Road PPP

Geography: Brazil
Instrument: SPV Performance-based penalty
Private Capital mobilized: \$3.4b
RS Intervention: Infrastructure upgrades

PiPa lot, at 1,273km, is the first of many Brazilian lots reconcessioned to new concessionaires. Won via auction by a consortium of institutional investors through a PPP with performance-based penalty scheme, designed by the IFC, and a total investment required of \$3.4b in road upgrades to 3-star ratings

Challenge & Proposed Solution

- Challenge:** The PiPa lot network has a history of 66 deaths a year from road crashes. The previous concession expired in 2020.
- Solution:** Integrating iRAP methodology, routes will be upgraded to 3-star or better to limit crash probability and severity via construction of new lanes and protective barriers and vulnerable road user access through a new concession with KPIs considering public interest. The iRAP investment plan was estimated to have the potential to save 4.27 deaths and serious injuries in 20 years.

Program Design & Targets

- Performance targets:** % of road segments classified with iRAP’s 3-star rating
- Bonus Scheme:** Concessionaires in Sao Paulo are required to contribute a % of toll revenues to a monetary fund. If performance exceeds targets, they receive a % payback of that contribution.

Example Performance Targets			
User	Y0	Y10	Y30
Vehicle	77%	96%	...
Pedestrian	64%	77%	...

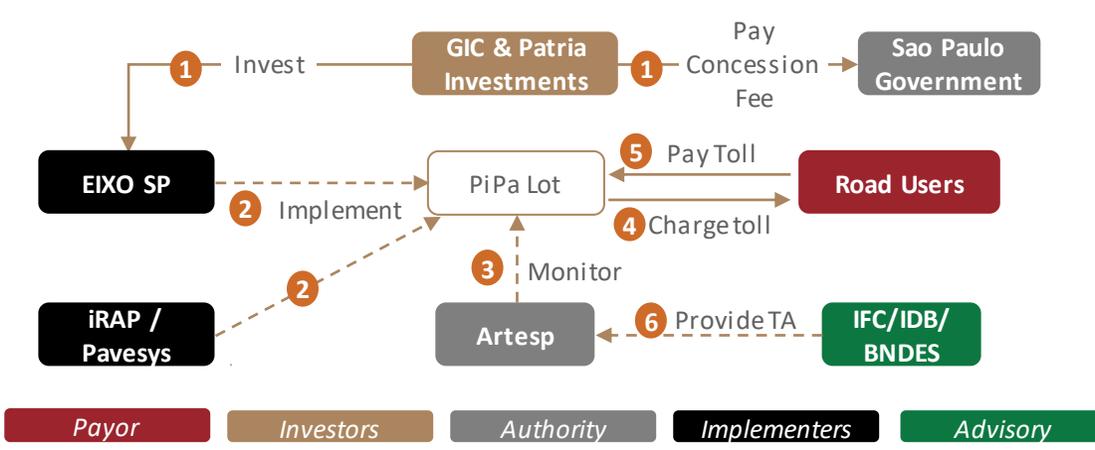
Example Bonus Tiers	
Achieved	Bonus
110%-120%	0.5% of contribution
140%+	2.7% of contribution

Bonus = % of contribution from toll revenue made to the Sao Paulo monetary fund as payback

Actors involved

Sponsors/ Investors	Consortium: GIC and Patria Investments
Donors	None
Partners	Project advisors: IFC, IDB, BNDES Assessor: Pavesys, iRAP
Recipient	SPV: EIXO [SP] Grantor: Sao Paulo state government
Authority	Artesp

Business model



- Financing:** Institutional investors inject capital for equity in a new concessionaire, EIXO SP, an SPV. Investment: \$3.4b including \$2.5b CAPEX, with a \$0.28b upfront concession fee to the Sao Paulo State Government
- Implementation:** iRAP to conduct safety audit and evaluation, EIXO SP to complete road upgrades as per contract and safety audit
- M&E¹:** Artesp transport authority monitors progress and performance, permitting toll collection upon 1st milestone and conducting penalty scheme, deducting penalties according to concessionaire’s road safety performance
- Revenue generation:** progressive tolls charged upon Artesp approval, with discounts provided for frequent users and commuters
- Technical Advisory:** Advisory team to support through design of bonus scheme, project accreditation

Note(s): [1] Monitoring and evaluation
 Source(s): WBG, iRAP, InfraPPP, EIXO SP, ARTESP

Vehicle Inspection Program (1/2)

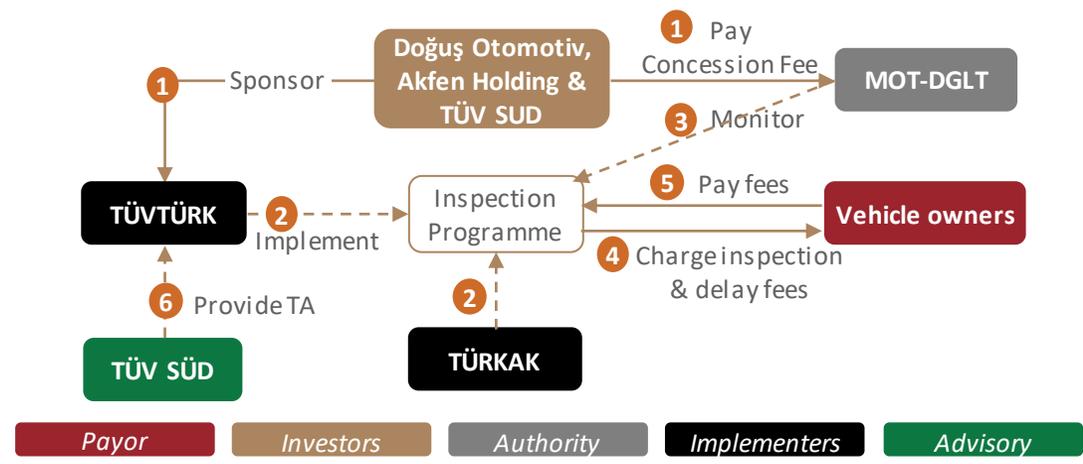
Non-road PPP

Geography: Republic of Turkey
Instrument: non-road PPP
Private Capital mobilized: \$770m
RS Intervention: Vehicle Inspection Program

Vehicle inspection was privatized in Turkey in 2008 and tendered to TÜVTÜRK for ~\$770m, to implement a modern vehicle inspection system, which was modeled after a well-proven system in Germany and adapted for the local market. Since the program launch, deaths in traffic crashes have decreased by 40%.

Challenge & Proposed Solution	<ul style="list-style-type: none"> Challenge: The existing vehicle control system in Turkey was ineffective in dealing with high traffic crashes and fatality rates, with insufficient number of stations, a lack of suitable test equipment, and improperly trained personnel for audits. Solution: The government decided to tender the program to private companies and signed a concession with TÜVTÜRK to provide a modern vehicle inspection system. The system was modeled after the well-proven system in place in Germany and customized to the local market. There are currently 189 fixed stations and 81 mobile stations, equipped with advanced facilities and technologies supported by an integrated IT system, real-time data processing and data storage 	Program Design & Targets	<ul style="list-style-type: none"> Performance targets: Withdrawing 50k of the old vehicles that threaten safety on roads by the end of 2013, making available 150 additional vehicle inspection station by 2013 for an effective inspection system¹ Realized outcomes: Within 18 months, 189 test centers and 81 mobile station network was built ² <u>Road Safety outcomes:</u> Over 5m examinations were performed annually. TÜV SÜD notes that deaths in traffic crashes decreased by 40%. The inspection failure rate of vehicles decreased from 43% to 37% <u>Economic outcomes:</u> The vehicle maintenance and repair sector has achieved a 30% increase in revenue with the detection and repair of malfunctions 	Actors involved	Sponsors/ Investors	JV: Doğuş Otomotiv, Akfen Holding & TÜV SÜD
	Donors		None			
Partners	TÜV SÜD, TÜRKAK					
Recipient	TÜVTÜRK					
Authority	MOT-DGLT (Ministry of Transport & Infrastructure) ³					

Business model



- Financing:** Institutional investors inject capital for equity in a new concessionaire, TÜVTÜRK. Investment: \$0.77b including \$0.27b CAPEX and \$0.5b concession fee to the Ministry of Transport and Infrastructure³
- Implementation:** TÜVTÜRK completes construction, IT infrastructure and employee training of the inspection stations accredited with the TS / EN ISO 17020 international standard. The Turkish Accreditation Agency (TÜRKAK) audits
- M&E:** MOT-DGLT regulates and supervises TÜVTÜRK activities, which undergo regular audits. It can monitor the station online.
- Revenue generation:** vehicle owners are charged inspection fees depending on the vehicle type. A portion of the revenues (30% first 3y, 40% next 7y, 50% last 10y) as well as the full 5% monthly Delay Fee are earmarked for the state Treasury
- Technical Advisory:** TÜV SÜD provides technical support, periodic revisions in Germany

Note(s): [1] İzzet ISIK, Ministry of Transport, Republic of Turkey, [2] TÜV SÜD, [3] Then Ministry of Transport, Maritime and Communications. Source(s): Cita, TÜV SÜD, UNECE, TUVTURK

Opportunities for Private Sector Engagement in India

ROAD SAFETY A CRITICAL DEVELOPMENT PRIORITY FOR INDIA, HAS MASSIVE FINANCING GAP

- Poor road safety performance signals a prevailing level of underinvestment in road safety programs
- Achieving SDG target of halving crash deaths by 2030 requires additional investment of about US\$109 billion over the next decade
- Funding for road safety interventions is primarily through central budgetary support
- MoRTH analysis estimated that the budget allocated for road safety from central government sources in 2020 was US\$ 99 million, with an estimated funding gap of US\$ 530 million
- **Timing is critical to mobilize private capital and bring in the private sector as an active stakeholder**

MVAA 2019 INCENTIVIZES PRIVATE INVESTMENTS

MVAA 2019 KEY PROVISIONS



Accountability for contractors, design consultants, and civic agencies



Improved **governance and efficient enforcement** of road safety behavior, use of IT-based technology and digitization



Automated **Vehicle Inspection & Certification centers**, legal mandate to **recall defective vehicles**



Improve **pre-hospital emergency services**



Motor Vehicle Accident Fund (MVAf) for universal insurance coverage to all road users

PRIVATE SECTOR PARTICIPATION?

Possible Solutions

Additional Debt to existing concessions
Corridor Safety Projects

Driving points
Issuance of licenses/permits
Accredited Training Schools
Electronic Enforcement

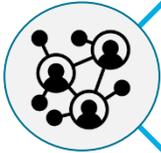
New vehicle ratings
Vehicle Tracking Systems
Automatic Vehicle Insp. Facilities

Ambulance services
Emergency Crash Relief Centers

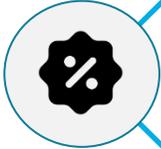
Pooled CSR fund that augments MVAf

RAISING PRIVATE CAPITAL THROUGH ROAD SAFETY SOCIAL BOND

BENEFITS



Access to a wider pool of financiers/investors focused on results



Access to capital at below market rates to help bridge the funding gap



Securitization through project revenues (e.g., traffic fines, insurer levies, CSR funding), risk assurance guarantee if necessary



Progress and enhanced visibility and impact towards India's sustainability targets (SDG)



Lower health cost and increased productivity in the long-run

Potential use-of-proceeds projects



Upgrading existing concessions



Establishing wayside amenities



Automated Traffic Management System



Road upgrade for vulnerable road users



Vehicle I&C network

This can be aligned with social bonds issued by private investors, DFIs and corporate donations (CSR)

POOLED ROAD SAFETY CSR TO LEVERAGE PRIVATE SECTOR INVESTMENT

OVERVIEW

Mandatory 2% minimum contribution of profits towards CSR

Exemption in income tax for investments towards road safety programs (CSR funds)

New regulations allowing for pooled CSR funds towards targeted common cause –

Estimated USD 30-50 million equivalent to between 3% and 4% of the 2018/2019 reported spend maybe targeted to road safety

USE OF FUNDS



Scaling up of successful results-oriented road safety initiatives

- Zero-Fatality Corridor initiative on the Mumbai-Pune Expressway managed by Save Life Foundation using corporate funding through CSR
- Multi-sectoral approach using in-depth crash investigation and 20-point framework for interventions has **achieved over 50% reduction in crash deaths in 3 years**
- Urgent priority to **scale and replicate the initiative to 100 such high-risk corridors**

Financing of the Scheme

- Excellent opportunity for use of pooled CSR funds for a common framework approach to support data collection, training and capacity building and linkages with local academia and research
- Success of program requires coordination with NHAI, operators and state-level agencies, and implementation of infrastructure upgrades and retrofitting can be financed through proposed social bonds, complementing the CSR pool.



Supplement State-Support Program outcomes: Fund results oriented activities of common interest to corporates

THANK YOU



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