



A DIAGNOSIS OF ROAD CONDITIONS AND ROAD SAFETY IN SUB-SAHARAN AFRICA

Peter Freeman
Consultant to the World Bank Independent Evaluation Group

A DIAGNOSIS OF ROAD CONDITIONS AND ROAD SAFETY IN SUB-SAHARAN AFRICA



Based on the presenter's work for the Independent Evaluation Group of the World Bank, 2013-2014

SARF/IRF Conference, South Africa, September, 2014

STRUCTURE OF PRESENTATION

- Changes in global aid architecture
- Diagnosis of road conditions in sub-Saharan Africa
- The state of road safety in sub-Saharan Africa

GLOBAL AID

Changing Architecture

MAJOR CHANGES IN DEVELOPMENT ASSISTANCE OVER THE PAST DECADE

- **NEW CHALLENGES:**
 - RECOGNITION THAT GLOBAL ISSUES NEED **GLOBAL SOLUTIONS** FOR ISSUES SUCH AS CLIMATE CHANGE AND HIV/AIDS
 - **GREATER TRANSPARENCY:** THE PUBLIC SCRUTINY OF AID HAS INCREASED, THERE IS A DRIVE TO MAKE AID MORE EFFECTIVE (e.g. Paris Declaration)
 - PROLIFERATION OF **NEW DONORS** AND NEW FINANCING MECHANISMS IN ADDITION TO TRADITIONAL BILATERAL AND MULTILATERAL DONORS
-

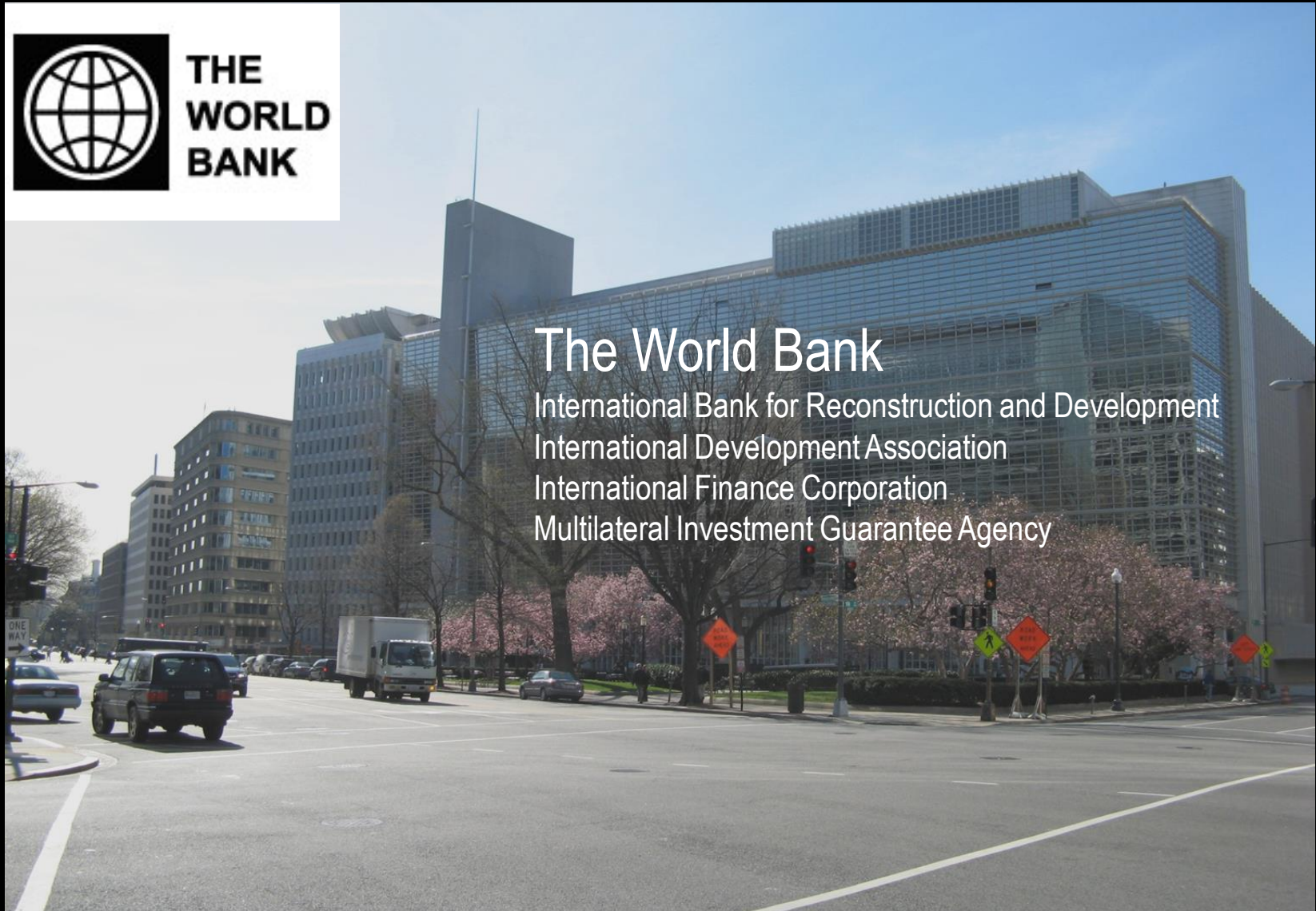
The World Bank



THE
WORLD
BANK

The World Bank

International Bank for Reconstruction and Development
International Development Association
International Finance Corporation
Multilateral Investment Guarantee Agency



INDEPENDENT EVALUATION GROUP

- The Independent Evaluation Group (IEG) is charged with evaluating the activities of the World Bank Group
 - IEG reports directly to the Bank's Board of Executive Directors
 - The goals of IEG are to learn from experience, assess the results of the Bank's work, and disseminate lessons from experience
-

WORLD BANK REORGANIZATION – THE LARGEST IN TWO DECADES

Middle income countries are now attracting significant private capital. More than \$1 trillion a year from the private sector and philanthropies flowed to developing economies last year. ODA by contrast was \$125 billion.

President Jim Yon Kim is reforming the World Bank.

Sweeping changes took effect on 1st July 2014:

- Regional departments are replaced by 14 global practices
- Eliminates a whole layer of management; speeds up decision making
- Simplifies bureaucracy and saves \$400 million in administration
- Intention to focus expertise and allow it to move more freely to address local problems

New goal is to reduce absolute poverty (people living on less than \$1.25/day) to 3% by 2030

CHANGING AID ARCHITECTURE IN SUB-SAHARAN AFRICA

- **Cooperation between financiers is improving**, but could still be better
- **Trust funds are growing in importance** (now accounting for 11% of development assistance from the World Bank).
- **Roads are a public good**. Outside of South Africa and Nigeria tolled infrastructure is rare
- For the foreseeable future roads in the less developed African countries are likely to continue to receive funding from development institutions
- **Funding to mitigate the effects of climate change** are becoming available (Mozambique)
- **The new BRICS bank** may take some time to have an impact
- **China overtook the US in 2009 as the largest two-way trade partner**
- But there are pros and cons for Chinese investment in roads

ROAD CONDITIONS IN SUB-SAHARAN AFRICA

A brief diagnosis

AFRICA INFRASTRUCTURE DIAGNOSTIC 2008

Still the seminal work on infrastructure:

- The road network is **less dense** than other world regions
- But many African countries have small, fragile economies and in some cases (Madagascar, Malawi, Mozambique and Niger) **the road asset value exceeds 30% of GDP** – making maintenance a challenge. In absolute terms expenditure is small
- Two thirds is spent on capital investment, **one third on maintenance (too low)**
- Sub-Saharan African countries on average spend about 2% of GDP on roads – this is **below the fast growing emerging economies**, which are spending up to 3%
- On average countries **budget 50% more on road investment than they succeed in spending** during a given budget cycle

MAIN AND RURAL ROAD CONDITIONS IN SELECTED SOUTHERN AFRICAN DEVELOPMENT COMMUNITY (SADC) COUNTRIES, 2008*

Country	% Main roads good/fair	% Rural roads good/fair
South Africa	97	55
Namibia	90	53
Malawi	85	80
Tanzania	80	53
Mozambique	79	50
Madagascar	63	15
Zambia	60	47
Lesotho	55	51

Source: AICD RONET database *Details given were the only SADC countries for which data were available

COMPETITIVENESS RANKINGS OF ROAD QUALITY, CORRUPTION AND BUREAUCRACY IN SADC COUNTRIES, 2013

SOURCE: WORLD ECONOMIC FORUM

Country	Road Network Condition 2013 (148 countries)	Road Network Condition 2008 (133 countries)	Corruption (148)	Regulation (148)
Angola	139	-	137	129
Botswana	59	45	30	39
Lesotho	115	113	66	42
Madagascar	129	92	132	93
Malawi	96	90	77	49
Mauritius	52	51	51	35
Mozambique	142	120	125	76
Namibia	30	20	71	67
South Africa	41	40	99	116
Tanzania	109	108	91	53
Zambia	94	110	64	12
Zimbabwe	100	86	95	102

PERCEPTIONS OF CHANGES IN ROAD CONDITION 2008-2014

Some deterioration: Botswana, Madagascar, Malawi, Mozambique, Namibia and Zimbabwe

About the same: Lesotho, Mauritius, South Africa and Tanzania

Some improvement: Zambia

BUT

Considerable ongoing road investment:

- In **Mozambique** the World Bank has extended the Roads and Bridges Program by \$39.4 million following cyclonic flooding. \$15.75 million has been added from the Climate Fund and DFID provided \$15 million for emergency relief.
- In **Botswana** the World Bank is providing \$236.8 million in road sector investments including performance-based road contracting, urban road improvements and capacity building

PERCEPTIONS OF CHANGES IN ROAD CONDITION 2008-2014 CONTINUED

- **Namibia** plans to invest heavily in corridor infrastructure
- **Zambia**'s road fund now receives \$160 million a year for road maintenance; performance-based contracts for maintenance are now the norm
- **Tanzania** has improved its percentage of roads in good and fair condition from 50% in 2000 to 86% in 2010. It also reduced overloading from 40% in 2000 to 6%
- **South Africa**'s road agency has continued to keep its main roads in good condition, but elsewhere many rural roads have been deteriorating. To stem this trend 1,500 km of Limpopo Province's roads are now under SANRAL's management
- Toll roads in South Africa, especially in Gauteng Province, have become politicized

GREATER EMPHASIS ON SUSTAINABILITY

- NEED FOR **ADEQUATE FUNDS** FOR MAINTENANCE EMPHASIZED
 - **PERFORMANCE-BASED CONTRACTING** ENCOURAGED
 - **IMPROVED CAPACITY** OF GOVERNMENTS AND AGENCIES SOUGHT
 - PROJECTS MEET INTERNATIONAL **SOCIAL AND ENVIRONMENTAL STANDARDS**
 - **CORRUPTION IS THWARTED** AND AUDITING IMPROVED
 - **REGIONAL CORRIDORS** ARE ENCOURAGED
-

LESSONS FOR ROAD PRESERVATION

- **Keep it simple.** Projects are often too ambitious in terms of both time and local capacity
 - **Projects should not stand alone**, but be part of a reform program with commitment from the top
 - **Build capacity across sectors** through a long term parallel program
 - **Maintenance should be adequately funded**
 - **Performance-based contracting is growing**
 - **Maintenance management strategies need to be customized**; involving the private sector is usually (but not always) beneficial
 - **Long term partnerships between** Borrowers and financiers are needed for maximum effect
-

ROAD SAFETY

A major challenge in sub-Saharan Africa

90% OF ROAD ACCIDENTS OCCUR IN DEVELOPING COUNTRIES



Every six seconds, someone is killed or maimed on the world's roads. Over 90 percent of these injuries occur in low- and middle-income countries.

THE STARK STATISTICS

- EVERY YEAR **1.3 MILLION PEOPLE ARE KILLED** IN ROAD ACCIDENTS WORLDWIDE
 - HALF THESE DEATHS ARE PEDESTRIANS, CYCLISTS AND MOTOR CYCLISTS
 - **90% OCCUR IN DEVELOPING COUNTRIES**
 - WITHOUT ACTION THE **FORECAST IS 1.9 MILLION KILLED BY 2030** (5TH BIGGEST CAUSE OF DEATH GLOBALLY)
 - COSTS ARE EQUIVALENT TO BETWEEN **1 AND 3% OF A COUNTRY'S GDP**
 - SUB-SAHARAN AFRICA HAS A MORTALITY RATE OF **32.2 DEATHS/100,000 PEOPLE**
 - THIS IS **DOUBLE** THE RATE OF SE ASIA AND LATIN AMERICA
 - **FIVE TIMES WORSE** THAN THE BETTER PERFORMING EUROPEAN COUNTRIES
 - A HARVARD TEAM ESTIMATES **ACCIDENT UNDERREPORTING OF UP TO 50%**
 - ROAD ACCIDENTS **DISPROPORTIONATELY AFFECT THE POOR**
-

CHILDREN ARE AMONGST THE MOST VULNERABLE ROAD USERS



URBAN TRAFFIC HAS DIFFERENT CHARACTERISTICS IN DEVELOPING COUNTRY CITIES



WHY ARE THERE SO MANY CRASHES IN AFRICA, ESPECIALLY IN THE CITIES?

The **traffic composition is very different** from that in high income countries; there are huge numbers of pedestrians, two-wheeled traffic and animals

Safety features like pedestrian crossings or separation lanes for different traffic are rare

Vehicle fleets are old and poorly maintained

Workers ride in open trucks and pick ups not designed for carrying people

Taxis often drive dangerously and stop without warning for passengers

Roads are often designed for European, not African conditions and are built for cars, not pedestrians

Parking rules are inadequate and poorly enforced.

There are **insufficient trained people** in law enforcement, emergency response etc.

Driving skills need improvement and there are many illegal licenses

ROAD TRAFFIC DEATHS AND MOTOR VEHICLE POPULATION FOR COUNTRIES IN SSA WITH MORE THAN 10 MILLION POPULATION (RANKED BY SIZE OF POP'N)

COUNTRY	POPULATION (millions)	TRAFFIC DEATH RATE/100,000 POP	REGISTERED VEHICLES (m)
Nigeria	158.4	33.7 (1)	12.6 (1)
Ethiopia	83.0	17.6	0.4
DRC	66.0	20.9	0.4
South Africa	50.1	31.9 (2)	9.6 (2)
Tanzania	44.8	22.7	1.0 (4)
Sudan	43.6	25.1	0.1
Kenya	40.5	20.9	1.4 (3)
Uganda	33.4	28.9 (3)	0.6
Ghana	24.3	22.2	0.8
Mozambique	23.4	18.5	0.4
Madagascar	20.7	18.4	0.2

ROAD TRAFFIC DEATHS AND MOTOR VEHICLE POPULATION FOR COUNTRIES IN SSA WITH MORE THAN 10 MILLION POPULATION (RANKED BY SIZE OF POPULATION)

COUNTRY	POPULATION (millions)	TRAFFIC DEATH RATE/100,000 POP	REGISTERED VEHICLES (m)
Cote d'Ivoire	19.7	20.9	0.5
Cameroon	19.6	20.1	0.4
Angola	19.1	23.1	0.2
Burkino Faso	16.5	27.7 (5)	0.9 (5)
Niger	15.5	23.7	0.2
Mali	15.4	23.1	0.2
Malawi	14.9	19.5	0.2
Zambia	13.1	23.8	0.3
Zimbabwe	12.6	14.6	0.9 (5)
Senegal	12.4	19.5	0.3
Chad	11.2	29.7 (4)	0.2
Rwanda	10.6	19.9	0.1
Guinea	10.0	19.6	0.1

UNITED NATIONS DECADE OF ACTION FOR ROAD SAFETY

- Formally launched in 2011
- Aims to reduce fatalities by 5 million and serious injuries by 50 million
- Target for Africa 937,000 lives saved and 9.3 million serious injuries avoided
- So far global results have been mixed: in 88 countries progress has been made, but in 87 countries the situation has worsened. These figures mask, however, the fact that there has been a 15% increase in the number of registered vehicles.
- The UN encourages the “safe system” approach developed in high income countries, whereby the whole system including road engineering, user behavior, vehicle safety, policing and post-crash care are tackled holistically
- This approach can be applied in middle and low income countries beginning with low cost measures, such as central barriers to avert head-on collisions, speed bumps to slow traffic speed and encouraging the use of crash helmets, seat belts and child restraints.

WORLD BANK SUPPORT FOR ROAD SAFETY

- World Bank established the **Global Road Safety Facility** to ramp up support for road safety
 - Original emphasis was on safety engineering measures, but now the safe system approach has been adopted and all staff must take a training course
 - **Road safety is now mainstreamed** in all road projects where feasible
 - Projects should have measurable safety objectives and dedicated safety projects are appearing
 - **The most successful project to date is in Argentina** where already there has been a 40% reduction in fatalities on the project roads, a 15% reduction in average driving speed, a 50% reduction in drink-driving and a 43% improvement in seat belt usage.
 - Other features are a \$10 million local authority incentive scheme and a National Road Observatory
 - **Success only comes when the politicians are supportive**
-

FINANCE FOR ROAD SAFETY REMAINS AN ISSUE

- The rate of return on road safety projects is high
 - However, GRSF has thus far only raised \$17.3 million in grant financing since 2006
 - External support for infectious diseases has raised over \$4 billion, but there is an incentive for the pharmaceutical companies to make more money
 - Approaches to the vehicle manufacturing and insurance companies have realized much smaller contributions
 - Since roads are largely a public good, it may be appropriate for multilateral banks to step up there investments in road safety.
 - In the World Bank the amount spent on road safety between 2002 and 2005 was \$134 million, in 2014 the Bank expects to approve \$515 million.
 - The Bank has determined that to the extent possible it should not finance an unsafe road
-

ONLY 28 COUNTRIES, REPRESENTING 449 MILLION PEOPLE (7% OF THE WORLD'S POPULATION), HAVE ADEQUATE LAWS THAT ADDRESS ALL FIVE RISK FACTORS (SPEED, DRINK- DRIVING, HELMETS, SEAT-BELTS AND CHILD RESTRAINTS).



THE WAY AHEAD

- There is still a long way to go. **Advocacy for more spending on road safety is essential**
 - **There will only be change if Government's accept at the highest level that improving road safety is important and urgent**
 - In Japan the Prime Minister himself chairs the national road safety initiative and this level of commitment holds true for many high-income countries.
 - **A holistic approach** means better policing, better accident records, better vehicle inspections and a better legal framework to prevent the importation of sub-standard vehicles
 - **The World Bank is considering mandatory road safety audits linked to road loans and credits and community consultation on road safety aspects of projects**
 - **Every country needs a road safety agency, a road safety plan and an action agenda to achieve identified goals** – there are low hanging fruit to be picked, which varies by country
-



Peter Freeman
SARF/IRF Conference
Pretoria
South Africa, September 2014

