



SSATP

Africa Transport
Policy Program

Safe Vehicles in Africa: A pressing need for action

Martin Small

Consultant to SSATP

Outline

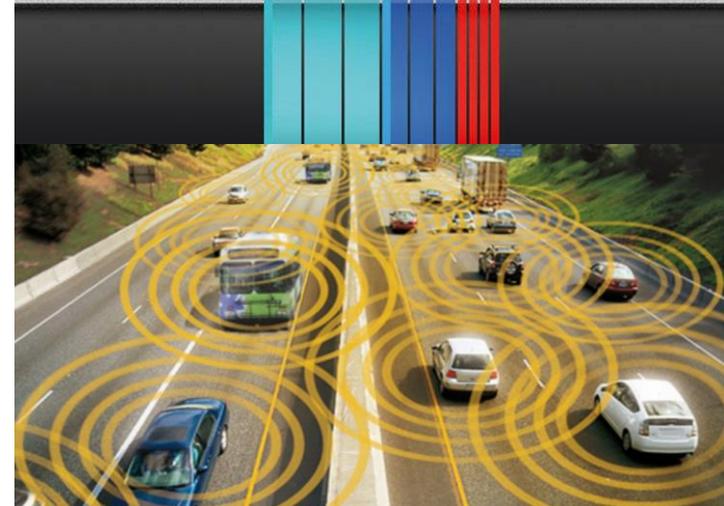
- Consumer/Product safety
- Vehicle data in Africa
- In-fleet regulation and periodic testing
- Regulating vehicle safety technology

But first ...

Vehicles are critically important

- Vehicles do not typically cause many crashes
- Vehicles can prevent many crashes, and many injuries
- Vehicles are quite different to other factors
 - Vehicles are the focus of private rather than public investment and ownership, the opposite of roads
 - There has been a rapid acceleration of health promoting technology in vehicles, which accommodate human error
 - Vehicles stick in the system for 20+ years – poor safety standards now mean poor safety for decades to come

The automotive industry is delivering major safety technology improvements which prevent crashes, such as



Active or “Primary”	Alcohol Interlocks
	Autonomous Emergency Braking
	Autonomous Vehicles

?

?

The automotive industry is delivering major safety technology improvements which prevent injuries, such as



Passive "Secondary"	Seatbelts
	Crumple Zones
	Airbags

?
?
?



The automotive industry is delivering major safety technology improvements which support the crash victim, such as

Recovery or
“Tertiary”

Emergency alert

?

?



Public safety regulation follows private safety invention



The two critical vehicle safety tasks for governments for the last 50 years have been to:

1. Promote the introduction of critical new safety technology into national fleets
2. Mandate new vehicle safety technology through setting national design and construction standards

Consumer / Product Safety

New Car Assessment Programs have been vital part of progress

- Major consumer information and transparency initiative
- Led by large automobile associations across the world
- Now some Government support, and international donor support



NCAPs have revealed major issues for low and middle-income countries

- Routinely, safety features are not provided in LMIC markets
- The fundamental reason for this is a lack of regulation in LMIC markets
- Expansion of NCAP activity, starting in the US, now in Latin America, South East Asia, China, India, Safer Cars in Africa

Safer Cars for Africa

5 best selling models in South Africa, accounting for 65% of the new car market →

#SAFERCARSFORAFRICA

RESULTS 2017

	✓	★	★	★	★	★	★	★	★
Toyota ETIOS	✓2	★	★	★	★	★	★	★	★
Renault SANDERO	✓2	★	★	★	★	★	★	★	★
Volkswagen POLO VIVO	✓2	★	★	★	★	★	★	★	★
Datsun GO+	✓1	★	★	★	★	★	★	★	★
Chery QQ3	×	★	★	★	★	★	★	★	★

#SAFERCARSFORAFRICA

RESULTS 2019

	✓	★	★	★	★	★	★	★	★
Toyota AVANZA	✓2	★	★	★	★	★	★	★	★
Honda AMAZE	✓2	★	★	★	★	★	★	★	★
Suzuki IGNIS	✓2	★	★	★	★	★	★	★	★

Vehicle data in Africa

Uncertainty in vehicle data in Africa (2004-14)

AFRICA	25,726	28,576	30,370	32,416	33,854	35,346	36,869	38,617	40,389	42,366	44,803
ALGERIA	2,924	3,108	3,312	3,545	3,847	3,981	4,130	4,533	4,835	5,133	5,570
ANGOLA	332	335	490	690	700	720	740	770	803	840	880
BENIN	156	159	166	191	199	207	211	220	231	241	252
BOTSWANA	164	176	187	206	227	286	285	328	345	364	392
BURKINA FASO	122	129	149	155	161	167	200	211	232	271	297
BURUNDI	36	37	46	50	50	52	54	60	61	62	63
CAMEROON	234	240	247	260	270	281	293	310	322	334	347
CONGO KINSHASA	1,583	1,603	1,615	1,622	1,626	1,631	1,669	1,723	1,760	1,830	1,900
EGYPT	2,920	3,085	3,251	3,456	3,743	4,213	4,524	4,669	4,854	5,126	5,734
ETHIOPIA	128	127	128	131	130	132	137	142	151	153	155
GHANA	159	411	570	780	710	693	730	770	820	850	890
IVORY COAST	612	642	671	713	742	785	816	840	870	900	940
KENYA	640	688	745	803	896	966	1,018	1,089	1,175	1,283	1,381
LIBERIA	50	55	56	51	52	54	56	57	61	62	63
LIBYA	1,479	1,747	1,800	1,830	1,850	2,122	2,229	2,350	2,476	2,610	2,740
MADAGASCAR	141	144	270	511	511	519	537	554	582	630	660
MALAWI	69	71	94	123	124	126	129	128	132	136	139
MALI	109	121	128	133	139	150	161	170	181	192	203
MAURITANIA	30	31	32	33	34	35	36	36	40	40	41
MAURITIUS	125	132	141	152	161	171	180	192	207	221	237
MOROCCO	1,979	2,122	2,259	2,409	2,596	2,760	2,920	3,088	3,248	3,397	3,570
MOZAMBIQUE	171	193	213	213	276	315	324	340	364	377	400
NIGERIA	1,747	2,829	2,860	2,920	2,967	3,090	3,210	3,330	3,440	3,590	3,750
SENEGAL	380	391	401	448	463	479	537	582	605	630	660
SOUTH AFRICA	6,872	7,372	7,803	8,017	8,221	8,157	8,404	8,700	9,013	9,319	9,600
SUDAN	86	88	90	90	93	94	96	99	107	109	111
TANZANIA	82	90	160	312	317	321	330	340	345	370	380
TOGO	148	148	153	154	155	158	162	168	174	186	198
TUNISIA	974	1,000	1,050	1,177	1,220	1,259	1,269	1,279	1,330	1,390	1,450
UGANDA	228	235	303	313	356	366	380	400	430	460	490
ZAMBIA	367	377	280	218	298	310	320	330	343	360	370
ZIMBABWE	679	690	700	710	721	747	780	810	853	900	940

Cleaner and Safer Used Vehicles Program



Country	Average age of registration	Average on-road LDV age	Average on-road HDV age	% LDV imports are used	%HDV imports are used
Botswana		12 years (2017)	10 years (2017)	80% (2017)	12% (2017)
Burkina Faso		23 years (2015)	26 years (2015)	99% (2017)	99% (2017)
Burundi	8 years (2017)	20 years (2017)	20 years (2017)	95% (2017)	95% (2017)
Cameroon		15-20years (2017)		96% (2017)	
Liberia	10 years (2017)			92% (2013)	
Lesotho		10 years (2017)	10 years (2017)	90% (2017)	10% (2017)
Malawi	10 years (2016)			97% (2017)	78% (2017)
Madagascar	15 years (2017)	15 years (2017)			
Mali		16+ years (2016)	16+ years (2016)	100% (2016)	100% (2016)
Mauritania	6 years (2017)	16 years (2017)	11 years (2017)	86% (2017)	88% (2017)
Niger		25 years (2017)	29 years (2017)	99.8% (2017)	99.9% (2017)
Seychelles	1 year (2017)			10% (2017)	
Sierra Leone	15 years (2017)	10-15years (2016)	10-15years (2016)	96%	98%
Tunisia				29% (2014)	
Uganda	15.6 years (2017)		24 years (2017)	95% (2017)	93% (2017)
Zambia	13 years (2014)				
Zimbabwe	13.3years (2016)	11 years		91%	

The flow of used vehicles across borders is a critical element in the equation

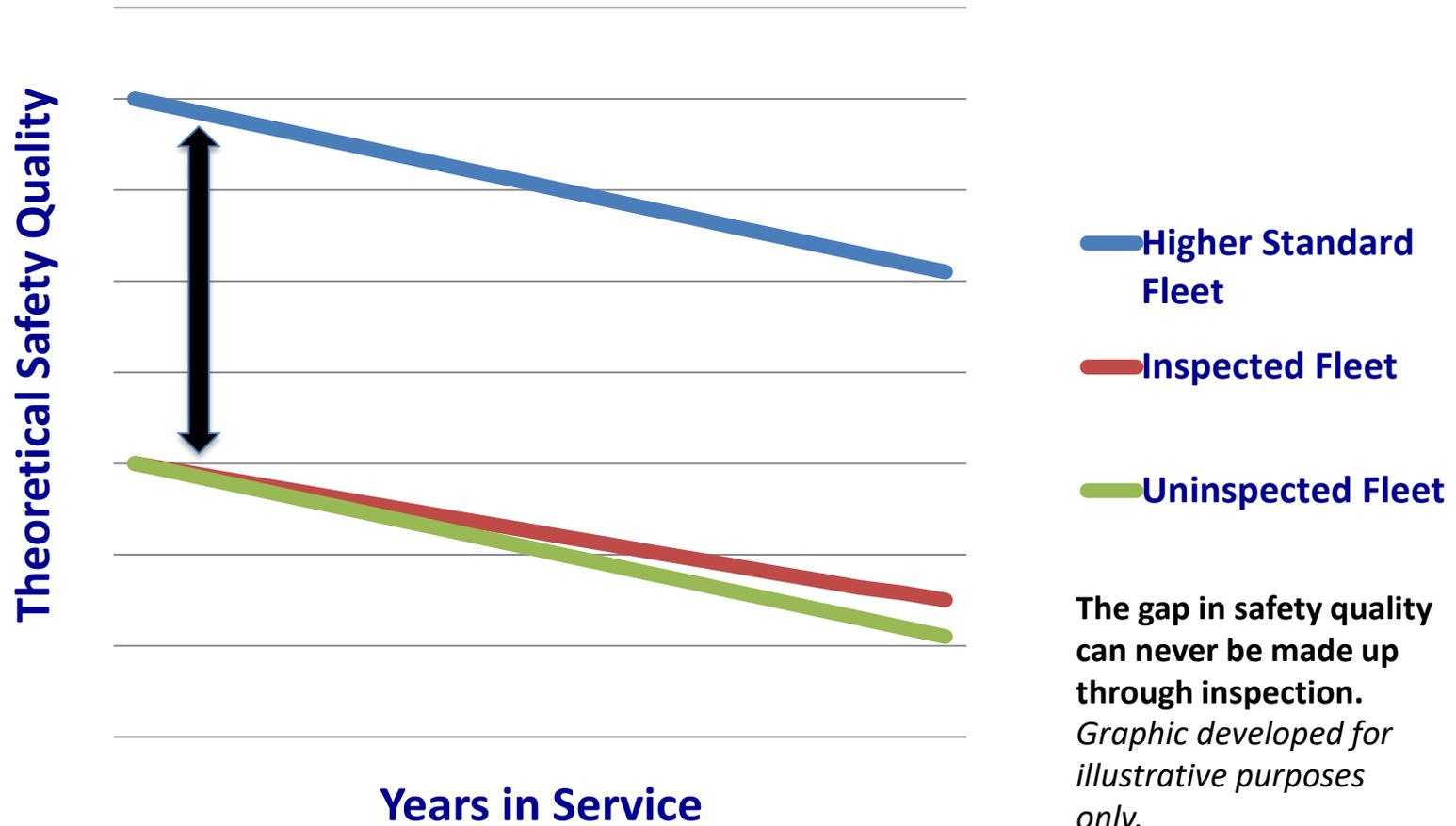
- 85% of Benin's used vehicle imports end up in Nigeria
- What safety standards apply to used vehicles entering African countries?
- Age rules may be important but insufficient



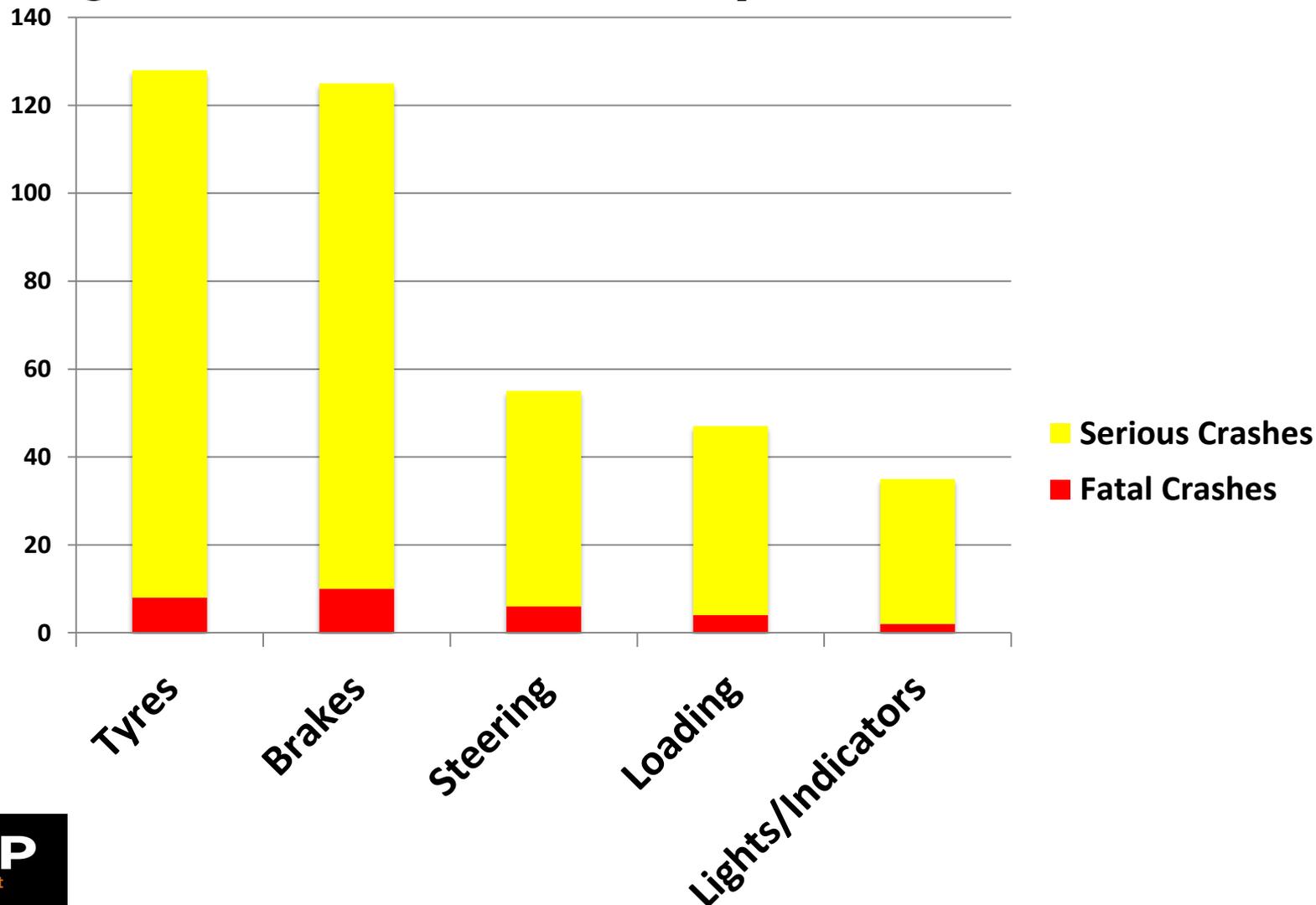
Deloitte (2016) "Navigating the African Automotive Sector: Ethiopia, Kenya and Nigeria"

In-Fleet Regulation & Periodic Testing

Focus on increasing safety technology at entry, not on maintaining old technology



Vehicle defect factors in road crashes in a high-income country (26KFSI)



Targeting (testing & enforcement)

Vehicle Issue

- Brakes
- Tyres
- Lights
- Steering
- Loading (roadside)
- Seat belts

Vehicle Type

- Commercial vehicles
 - separately regulated
 - carry many passengers
 - freight loading issues
 - involved in very high % of serious crashes
- Older vehicles, where roadworthiness issues are likely to be more extreme

Assessment of Vehicle Inspection Systems – 1st African Country Study

- No technical requirements for first vehicle registration
- The rejection rate is extremely low (1%)
- Virtually no supervision of concessionaire by government
- Inspection stations need improved equipment and processes

Recommendations

- Vehicles only registered once confirmed that they meet specific technical requirements (eg, 1958 UN Convention)
- Stagger introduction of technical requirements to avoid the sudden increase of vehicle cost that may affect fleet renewal

Regulating vehicle safety

United Nations Vehicle Safety Regulation System

Managed by UNECE through World Forum for Harmonisation of Vehicle Regulations (WP29). WHO priority Regulations:



Frontal Impact
(No.94)
Side Impact
(No.95)



Pedestrian
Protection
No.127 (GTR. 9)



Seat Belt
& Anchorages
(No.16 & 14)



Motorcycle
Anti-Lock Brakes
No.78 (GTR.3)

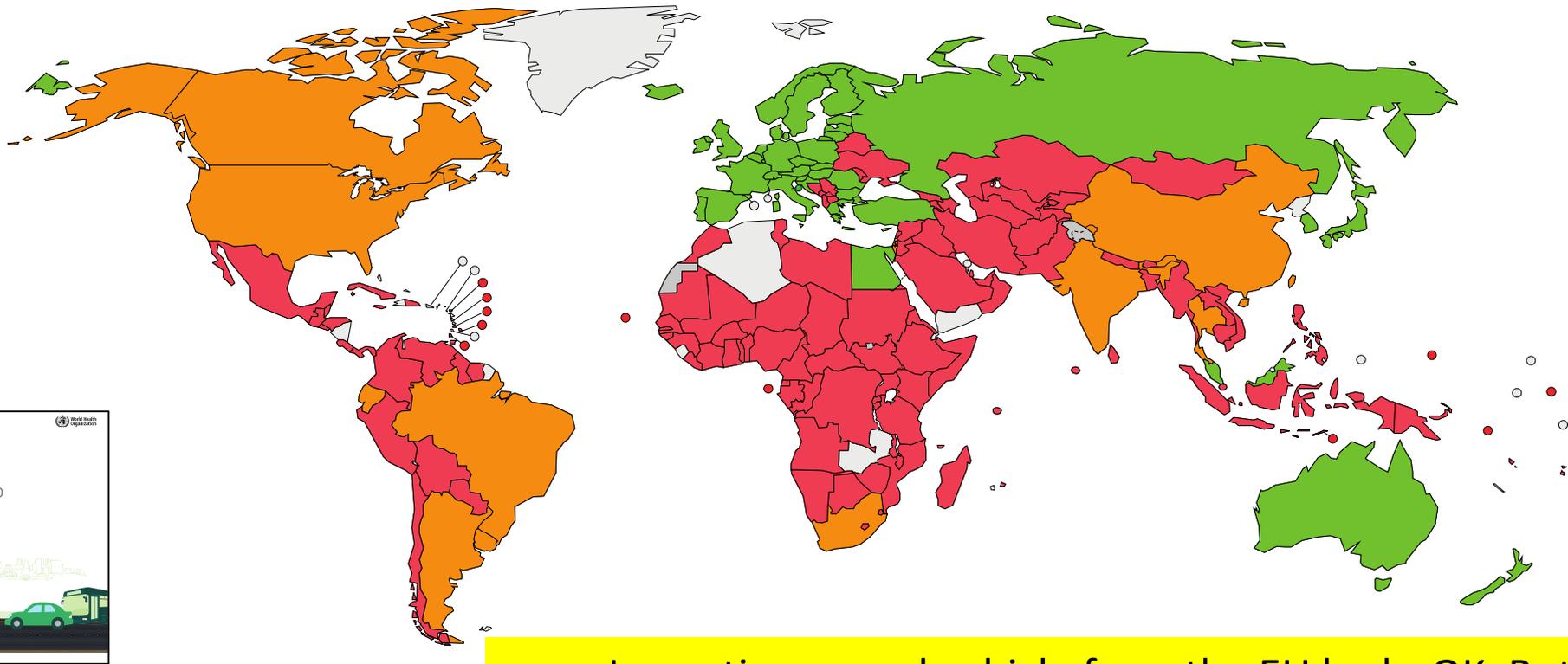


Electronic
Stability Control
No.140 (GTR. 8)



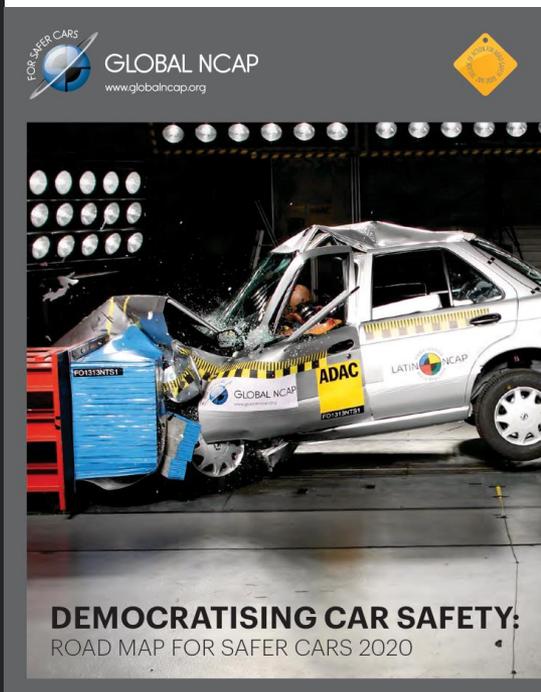
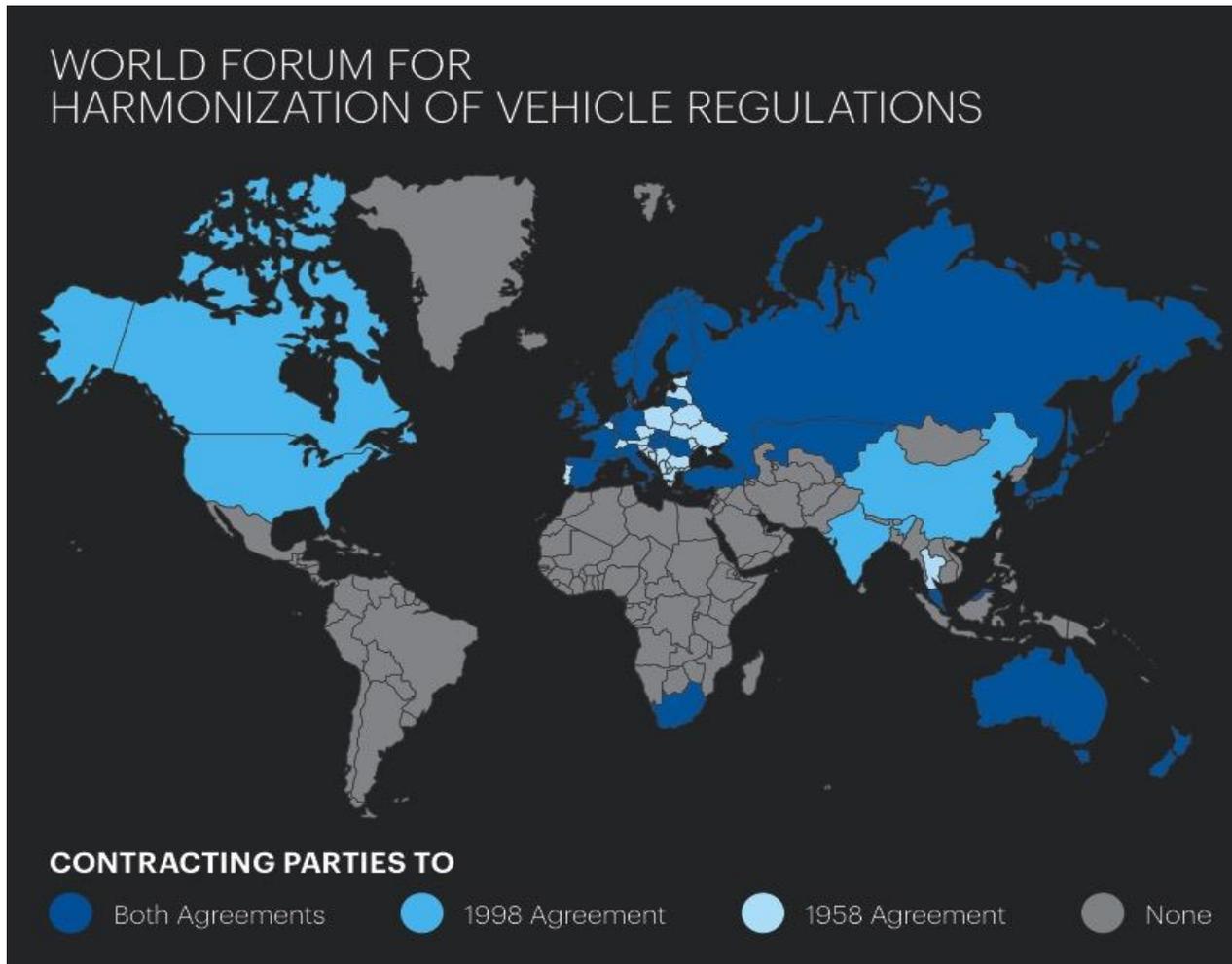
Autonomous
Emergency
Braking Systems

What safety standards apply to used vehicles entering African countries?



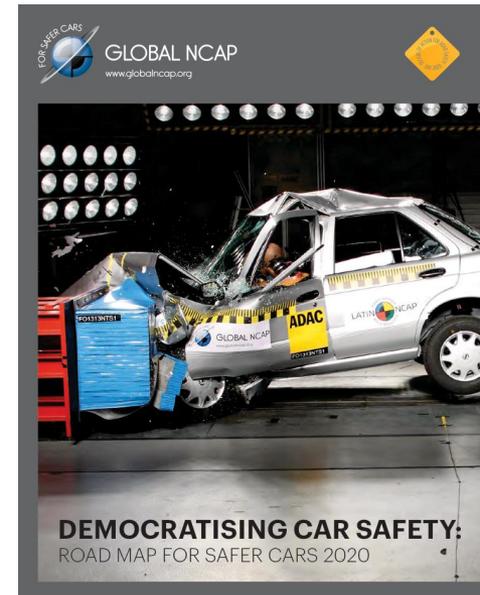
Importing a used vehicle from the EU looks OK. But what about importing a used vehicle that began life in Africa, the Middle East or South East Asia?

Contracting parties to the two relevant UN Conventions (both now signed by Nigeria)



A vehicle safety policy agenda which is relevant for Africa

- UN Member States participate in WP29
- UN Member States adopt staged regulation plan
- **Consider UN system to control entry of used vehicles**
- Apply production conformity checks for national markets
- Carry out regular roadworthiness testing
- Interim voluntary commitments by manufacturers
- Fleet purchasers set 'five star' procurement
- Governments and insurers incentivize more rapid deployment of new technologies
- Support NCAPs, **possibly starting in South Africa**
- Consider scrappage schemes to remove older vehicles



Some final thoughts on vehicle safety for Africa

- Improved roadworthiness is good, but not as good as improved vehicle safety technology
- The focus in Africa needs to shift towards restricting entry of sub-standard used (and new) vehicles
- The UN system can be re-purposed to strengthen controls
- Potential impacts on fleet renewal need consideration
- Political awareness, consumer advocacy, professional R&D, and industry engagement is essential
- Vehicle safety technology is critical, and Africa is exposed through a lack of vehicle safety regulation