Borderless traffic safety research

- setting the plan towards 2030

How can we in the research community together utilize the opportunities that come with the UN Conference and the Stockholm Declaration?

WEBINAR SERIES: The outcome of the UN Conference on road safety and the Stockholm declaration - *Implementation of the nine recommendations supporting the new UN declaration and Agenda 2030*

- Session #1: January 19, 09:30-10:45: Implementation and Technology research
- Session #2: February 25, 11:30-13:00: Integration of road safety in the SDG:s
- Session #3: March 31, 15:00-16:15: The Value Chain; reporting and procurement

Sign up at www.saferresearch.com/events

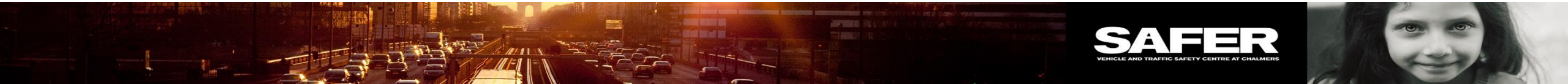
SAFER
VEHICLE AND TRAFFIC SAFETY CENTRE AT CHALMERS

WHAT ARE WE AIMING TO ACHIEVE?

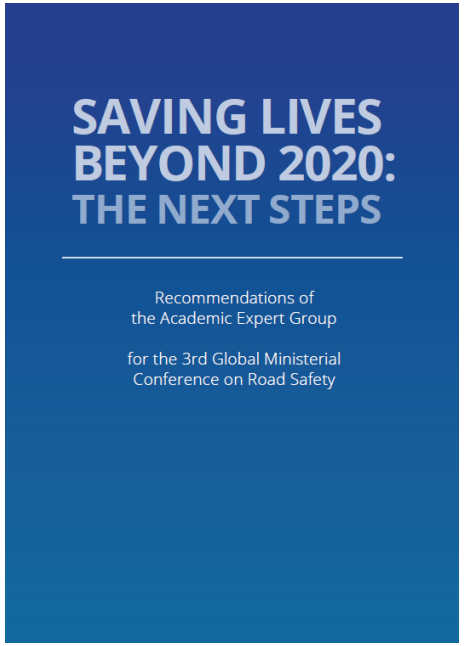
How can we in the research community together utilize the opportunities that come with the UN Conference and the Stockholm Declaration?

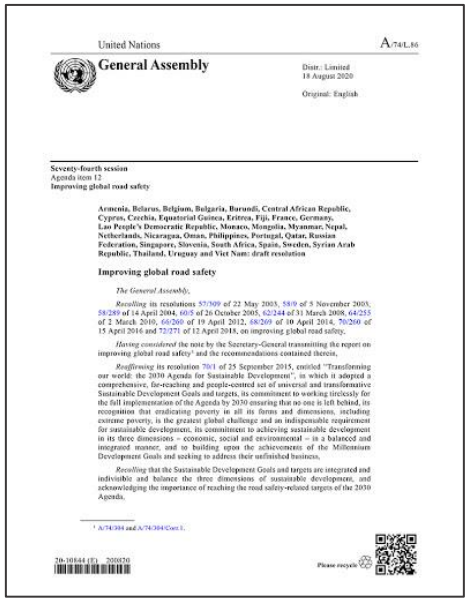
TOGETHER we want to create understanding for the Stockholm Declaration and the nine recommendations "Saving lives beyond 2020 – the next steps" and how these together with the research community can support Agenda 2030 and the Global Sustainable Development Goals.

We also want to **identify possible research questions** and **projects**, suitable for us to address in a multi-disciplinary research environment.



SETTING THE SCENE




United Nations A/74/L.86

General Assembly

Distr.: Limited
18 August 2020

Original: English

Seventy-fourth session
Agenda item 12
Improving global road safety

Armenia, Belarus, Belgium, Bulgaria, Burundi, Central African Republic, Cyprus, Czechia, Equatorial Guinea, Eritrea, Fiji, France, Germany, Lao People's Democratic Republic, Monaco, Mongolia, Myanmar, Nepal, Netherlands, Nicaragua, Oman, Philippines, Portugal, Qatar, Russian Federation, Singapore, Slovenia, South Africa, Spain, Sweden, Syrian Arab Republic, Thailand, Uruguay and Viet Nam: draft resolution

Improving global road safety

The General Assembly,

Recalling its resolutions 57/309 of 22 May 2003, 58/9 of 5 November 2003, 58/289 of 14 April 2004, 60/5 of 26 October 2005, 62/244 of 31 March 2008, 64/255 of 2 March 2010, 66/260 of 19 April 2012, 68/269 of 10 April 2014, 70/260 of 15 April 2016 and 72/271 of 12 April 2018, on improving global road safety,

Having considered the note by the Secretary-General transmitting the report on improving global road safety[1] and the recommendations contained therein,

Reaffirming its resolution 70/1 of 25 September 2015, entitled "Transforming our world: the 2030 Agenda for Sustainable Development", in which it adopted a comprehensive, far-reaching and people-centred set of universal and transformative Sustainable Development Goals and targets, its commitment to working tirelessly for the full implementation of the Agenda by 2030 ensuring that no one is left behind, its recognition that eradicating poverty in all its forms and dimensions, including extreme poverty, is the greatest global challenge and an indispensable requirement for sustainable development, its commitment to achieving sustainable development in its three dimensions – economic, social and environmental – in a balanced and integrated manner, and to building upon the achievements of the Millennium Development Goals and seeking to address their unfinished business,

Recalling that the Sustainable Development Goals and targets are integrated and indivisible and balance the three dimensions of sustainable development, and acknowledging the importance of reaching the road safety-related targets of the 2030 Agenda,

[1] A/74/304 and A/74/304/Corr.1.

20-10644 (E) 200820

Please recycle

Borderless traffic safety research

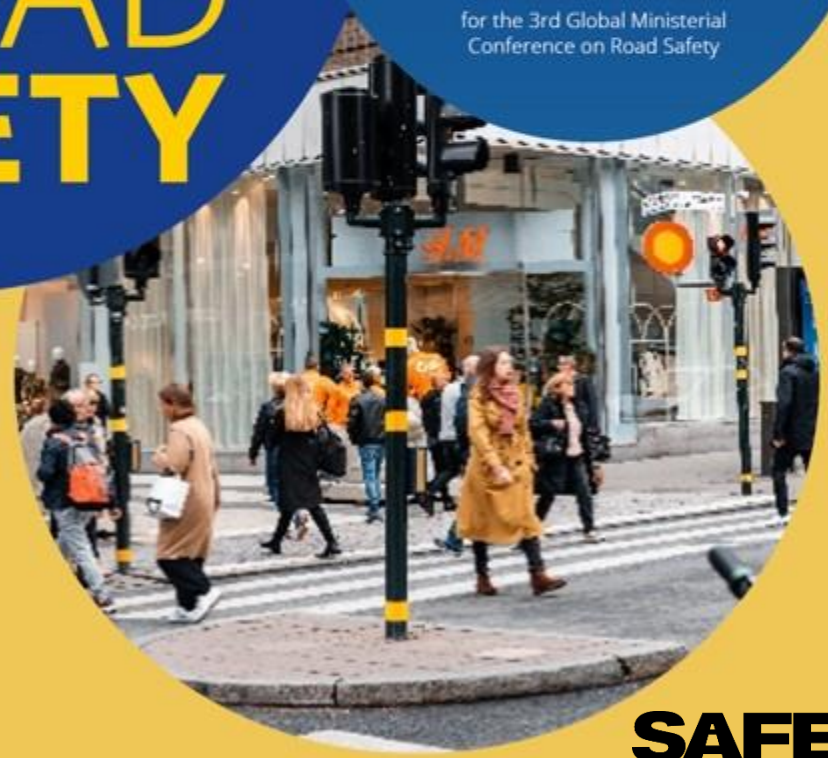
- setting the plan towards 2030

3RD GLOBAL MINISTERIAL CONFERENCE on ROAD SAFETY

SAVING LIVES BEYOND 2020: THE NEXT STEPS

Recommendations of the Academic Expert Group

for the 3rd Global Ministerial Conference on Road Safety



Session #1: Implementation and Technology research

January 19, 09:30-10:45

SAFER
VEHICLE AND TRAFFIC SAFETY CENTRE AT CHALMERS

OUR EXPERTS

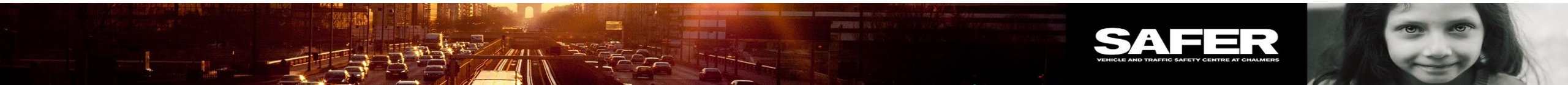
Supporting us in building our knowledge ahead

- Prof. Claes Tingvall, Chalmers University of Technology and Chairman of the Academic Expert Group
- Dr. Cecilia Sunnevång, Vice President Research, Autoliv
- Prof. Shaw Voon Wong, University Putra and member of the Academic Expert Group

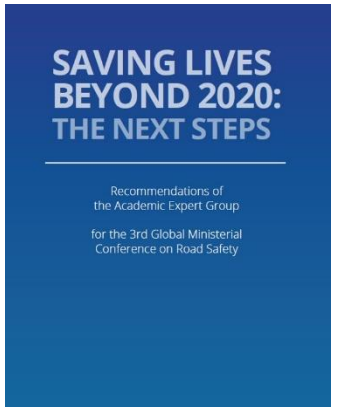
Prof. Claes Tingvall

Dr. Cecilia Sunnevång

Prof. Shaw Voon Wong



PROF. CLAES TINGVALL



#9 Technology

In order to quickly and equitably realize the potential benefits of emerging technologies to road safety, including, but not limited to, sensory devices, connectivity methods and artificial intelligence, we recommend that corporations and governments incentivize the development, application and deployment of existing and future technologies to improve all aspects of road safety from crash prevention to emergency response and trauma care, with special attention given to the safety needs and social, economic and environmental conditions of **low- and middle-income nations**.

- How do we make effective technology available in low and middle income countries?
- Which technologies are relevant in those countries where vulnerable road users, including PTW riders, are a majority of the victims? And where we at the same time improve health, climate and equity!
- Over 40 000 chiffren aged under 5 years are killed annually across the world. Which technologies will save their lives, within a short time period? How will these technologies transfer to where they make most impact?

The top three research questions to address for recommendation #9 according to Prof. Tingvall

DR. CECILIA SUNNEVÅNG

A new era of mobility – game changers

ELECTRIFICATION

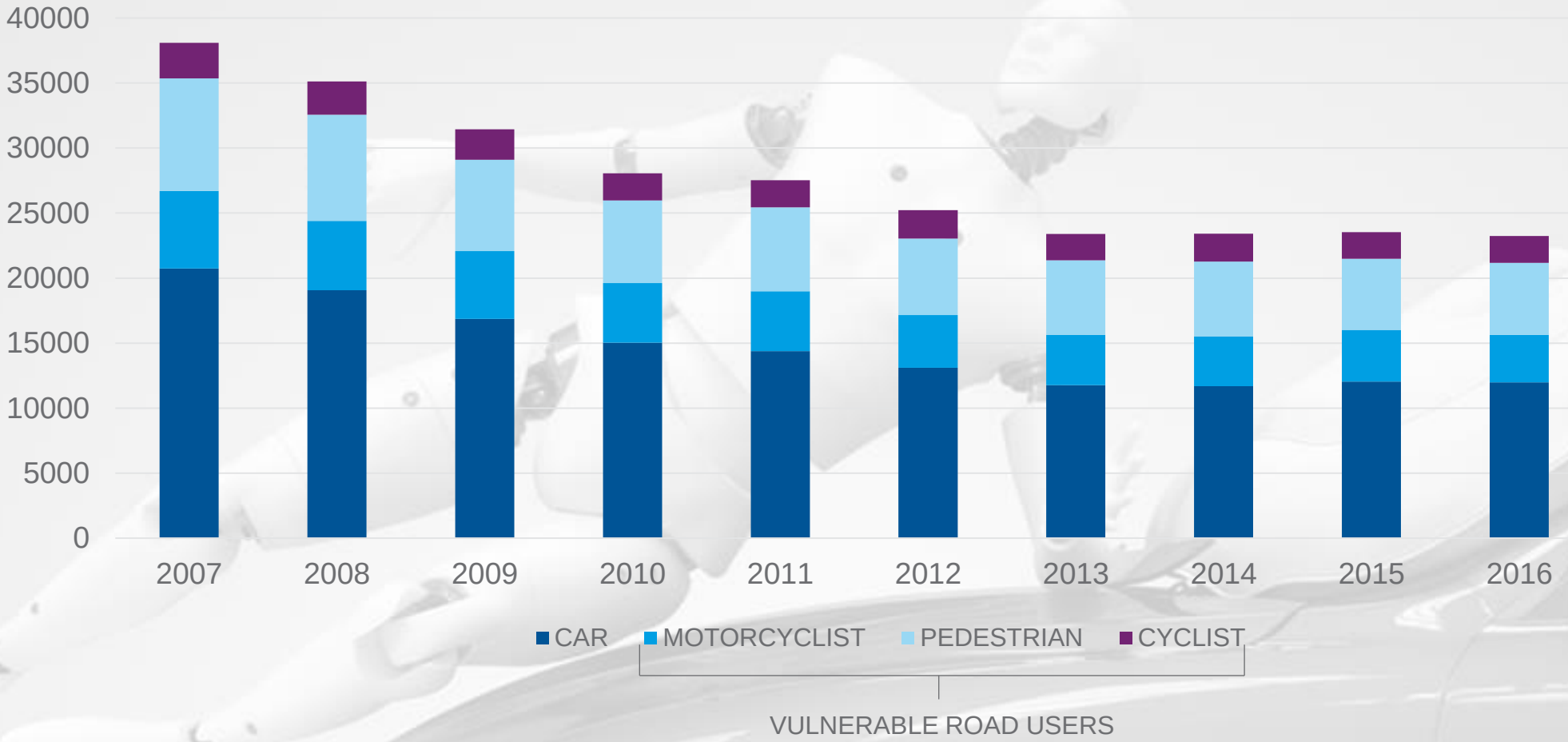
CONNECTIVITY

AUTOMATION

SHARED MOBILITY

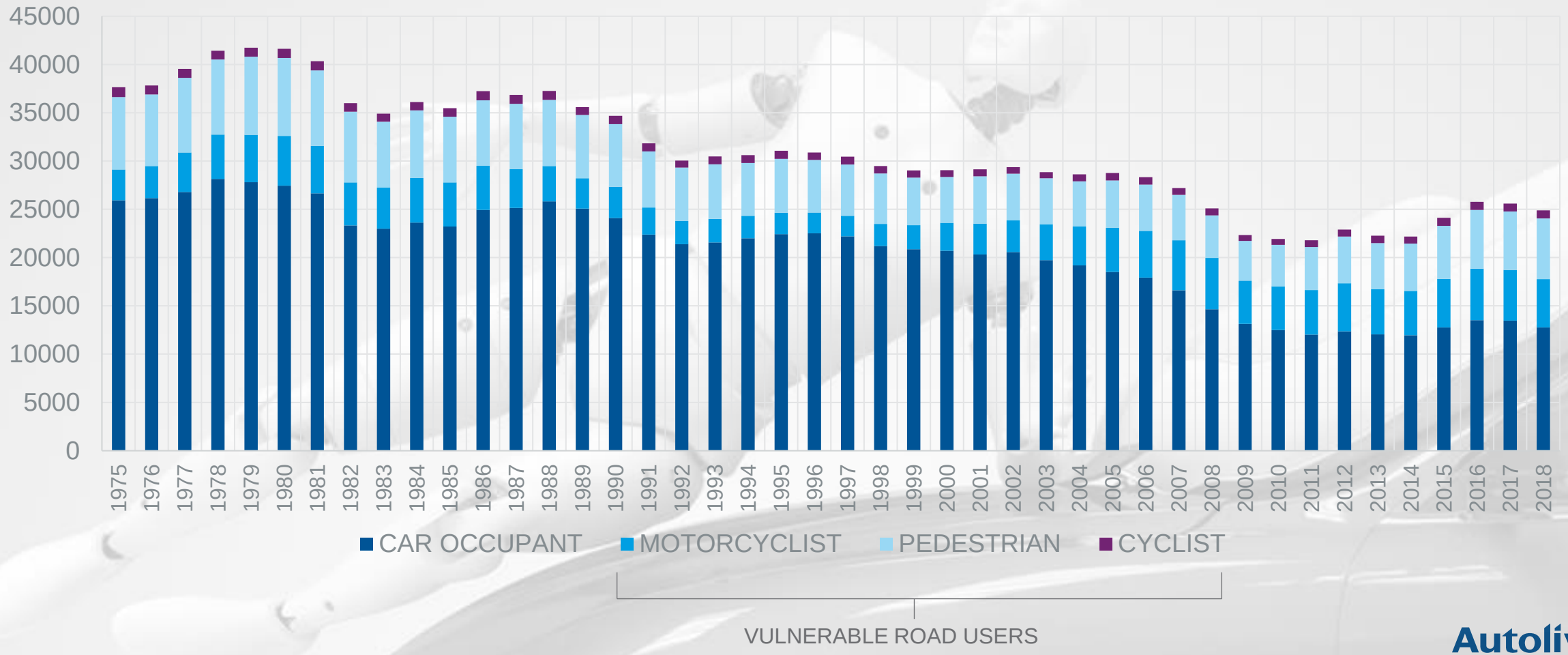
Road fatalities by mode of transport in Europe

Source: ERSO Annual Accident Report 2018:
ec.europa.eu/transport/road_safety/sites/roadsafety/files/pdf/statistics/dacota/asr2018.pdf



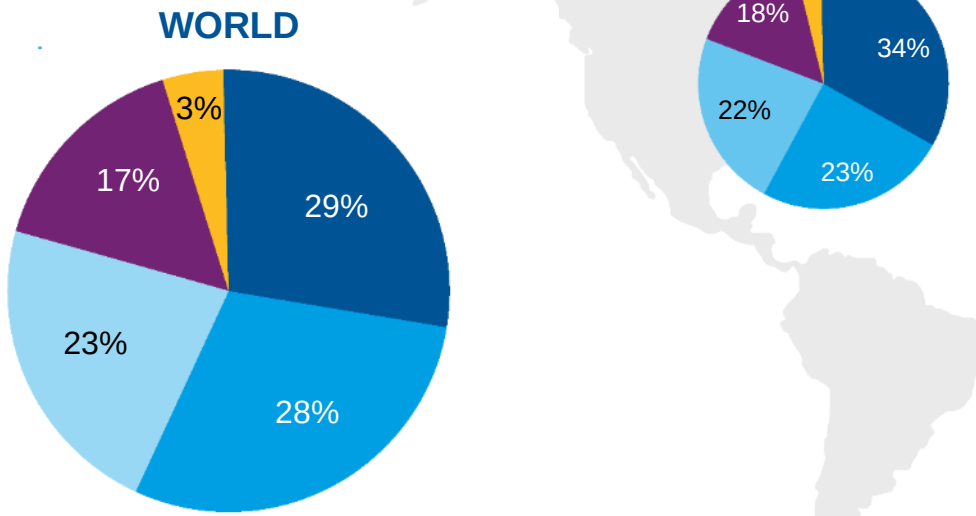
Road fatalities by mode of transport in US

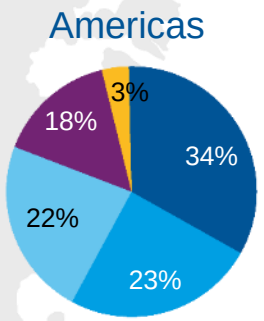
Source: NHTSA Traffic Safety Facts 2019

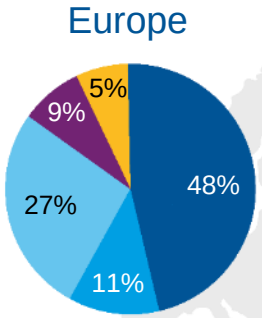


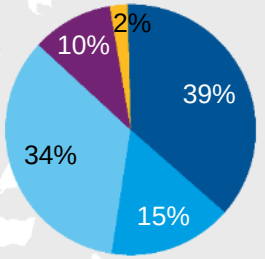
Vulnerable road users dominate road fatalities

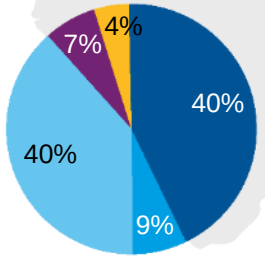
- Driver/passengers of 4-wheeled vehicles
- Motorized 2 and 3-wheelers
- Cyclists
- Pedestrians
- Others/Unknown

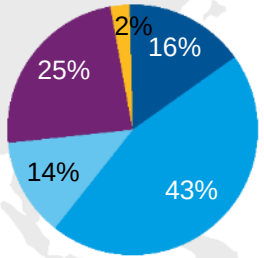


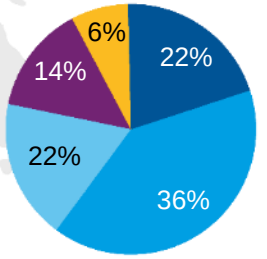












Source: WHO Road Safety report 2018

Multi-modal change for a sustainable society

The Road to Saving More Lives

Going Beyond Standardized Test Scenarios Towards Real Life Situations and Benefits

Human Body Modelling – Injury Assessment in Multimodal Transport

- A biofidelic tool to predict human pre-crash and in-crash kinematics and assess most common injuries
- To be used for countermeasure development, star rating evaluations and policy making
  - Vehicle occupants, pedestrians, cyclist and powered two wheelers
- Seamlessly morphable to any adult human anthropometry




Autoliv

On Bike Rider Protection

INJURY RISK

46% risk for concussion with unconsiousness

100% risk for 2 or more fractured ribs

12% risk of concussion with unconsiousness

3% risk of 2 or more fractured ribs

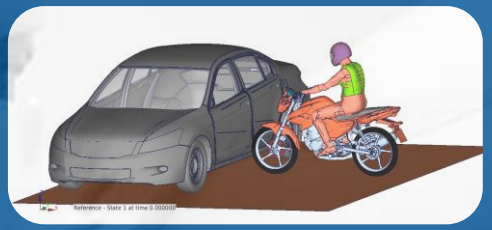
Power Two-Wheeler Rider Protection

- **On-Bike airbags** to prevent head, chest and pelvic injuries
- **Inflatable wearables** to prevent injuries to multiple body regions
- **Digital services** for coaching and crash detection

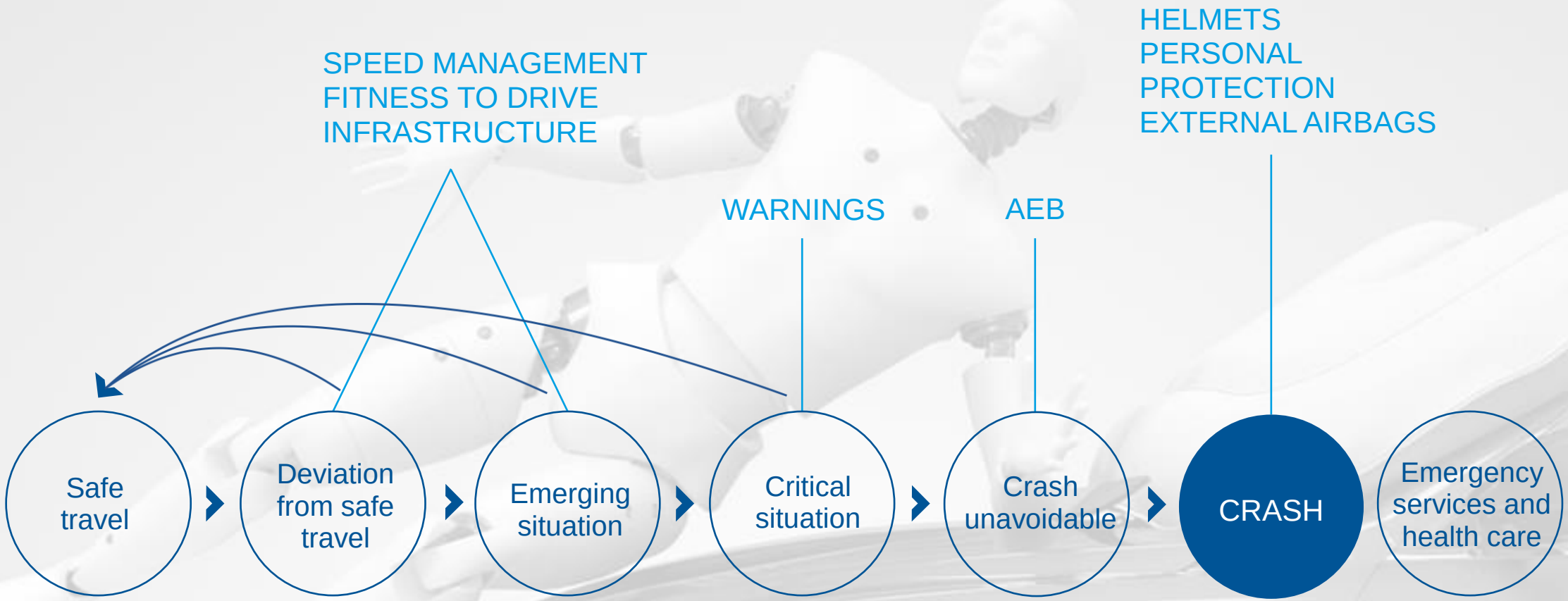
On-Bike Protection

Digital Services

On-Rider Protection



Countermeasure evaluation



Top Three Research Questions

1. Data is key for success. How do we collect, store and share data? It can be accident data, NDS data, behavior data, vehicle data, etc.

2. Tool for injury assessment. How do we develop the HBM to represent a multi modal road user?

3. Efficient strategies – What are the Safe System Principals and how to we make them effective and applicable to different situations?


Each year, Autoliv's products save over 30,000 lives
autoliv.com
Autoliv

PROF. SHAW VOON WONG

Lesson from Mandating Electronic Stability Control in Malaysia

Professor Dr. Shaw Voon Wong
Mr. XiaoTao Fei

University Putra Malaysia

Recommendation #9: Technology

bringing the benefits of safer vehicles and infrastructure to low- and middle-income countries

Quickly and **Equitably** realizing the potential benefits of emerging technologies to road safety; we recommend that **corporations** and **governments** incentivize the development, application and deployment of existing and future technologies to improve all aspects of road safety with special attention given to the safety needs and social, economic and environmental conditions of **low- and middle-income nations**.

On 26 Nov 2016 during the ASEAN Stop The Crash event, the then-Minister of Transport Malaysia announced that the government was legislating electronic stability control (ESC) on all new vehicles by June 2018 - first ASEAN country to mandate ESC

Journey Started

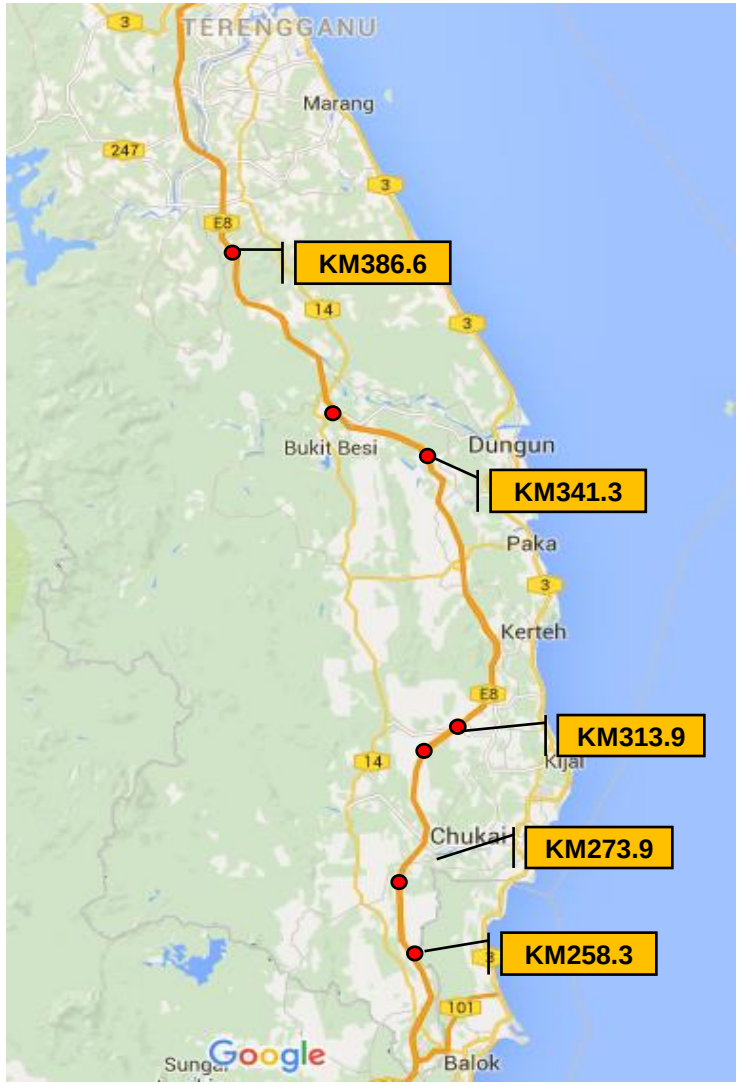
ASEAN NCAP 2011-2016

No ESC : No 5-star

ASEAN NCAP 2017-2020

Maximum 2-star without ESC

Opportunity at the time – Q4 2015



KM258.3 near Perasing	
Fatality	**Involved**
6 fatal	Car vs trailer

KM273.9 near Cheneh	
Fatality	**Involved**
2 fatal 2 serious injured	Car vs guardrail

KM313.9 near Plaza Tol Kijal	
Fatality	**Involved**
3 fatal	4 cars (MVA)

KM341.3 near Dungun	
Fatality	**Involved**
1 fatal 2 serious injured 1 slight injured	Car vs Guardrail

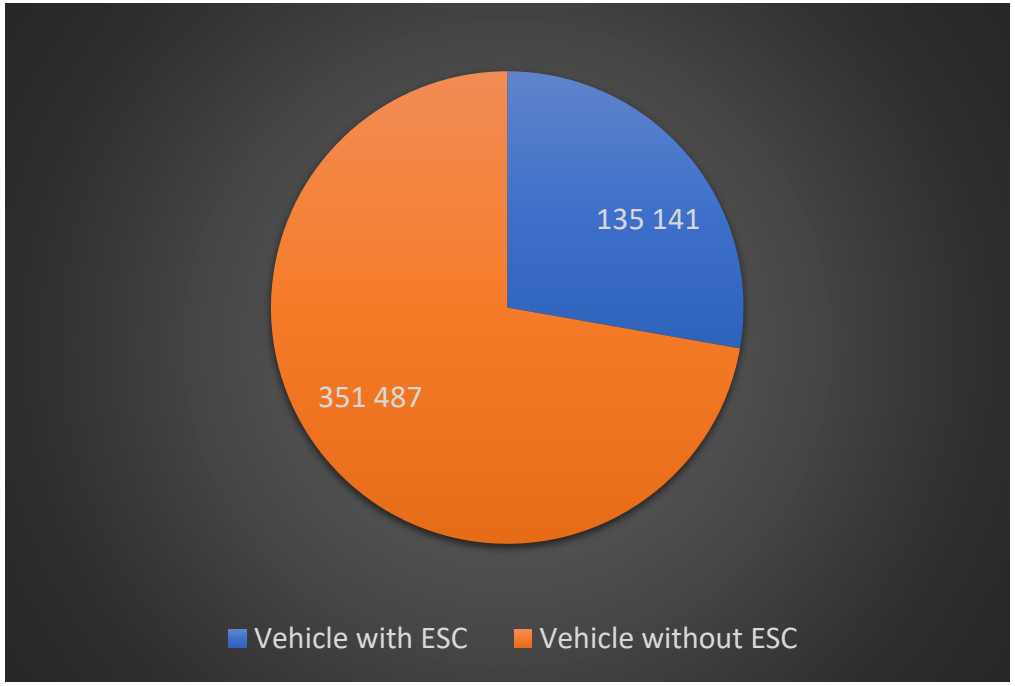
KM386.6 near Ajil	
Fatality	**Involved**
5 fatal	Car vs trailer

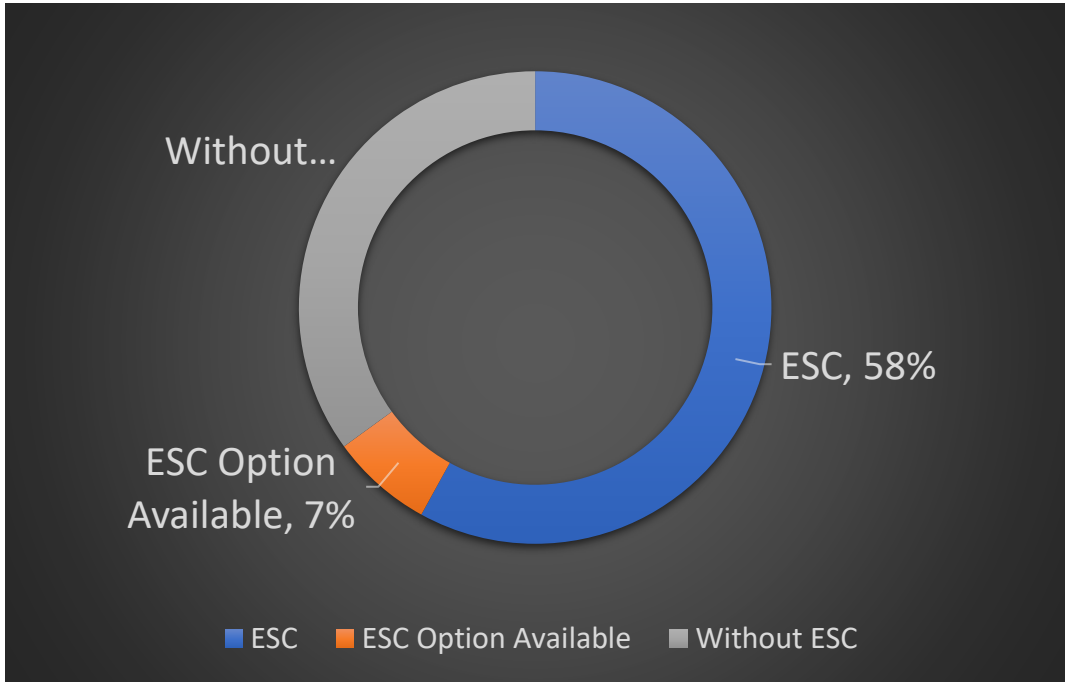
Presented, Recommended, and Approved by
Ministry of Transport

Then, endorsed by Road Safety Cabinet Committee

Cabinet Final Approval

ESC installation status in Malaysia (2014)





From total units of 486,628, only **28%** vehicle sold in Malaysia (Top 100) was equipped with ESC.

Brand	ESC	ESC Option Available	Without ESC	Total
Audi	1	0	0	1
BMW	6	0	0	6
Chevrolet	0	0	1	1
Daihatsu	0	0	1	1
Ford	2	0	2	4
Honda	6	2	0	8
Hyundai	7	0	1	8
Isuzu	0	0	1	1
Kia	6	0	0	6
Land Rover	0	0	1	1
Lexus	2	0	0	2
Mazda	4	1	0	5
Mercedes	6	0	0	6
Mini	1	0	0	1
Mitsubishi	0	1	4	5
Nissan	2	0	6	8
Perodua	0	0	3	3
Peugeot	2	0	2	4
Proton	3	0	4	7
Toyota	2	1	8	11
Suzuki	1	1	1	3
Subaru	2	0	0	2
Volkswagen	5	1	0	6
Sub-Total	58	7	35	**100**

Benefit Cost Ratio of ESC implementation

3.5 [for every €(Euro) invested into ESC, €3.5 accident cost saving result. ESC Product Cost: €130

2.3 [for every ¥(Yen) invested into ESC, ¥2.3 accident cost saving result. ESC Product Cost: ¥15,000

The average incremental cost per passenger vehicle for ESC fitment is **USD 58** (Source NHTSA 2006)

Studies about ESC effectiveness in accident reduction

NHTSA, [April 2006]
-Fatal single vehicle accidents
passenger cars - 36%
SUVs - 52%
-Fatal rollover crashes
passenger cars - 40%
SUVs - 73%

IIHS, [Oct 2004 & June 2006]
- All fatal crashes - 43%
- Single vehicle accidents - 41%
- Fatal single vehicle accidents - 56%
- Fatal single vehicle rollovers passenger cars - 77%

Daimler Chrysler, [May 2004]
- Driving accidents - 42%

Volkswagen, [Feb 2004]
-Fatalities - 35%
-Skidding Accidents - 80%

Swedish National Road Administration, 2002/2005
-All Accidents1 - 22%
-Severe & fatal single vehicle accidents - 44%

Toyota, [May 2003]
- Single vehicle accidents - 35%
- Severe single vehicle accidents - 50%

NASVA, [Feb 2005]
- Single vehicle accidents - 44%
- Severe accidents² - 62%

ESC Cost-Benefit-Ratio
8 – 14 times of Head Restraint
18 – 19 times of Ctr Shoulder Belt
10 – 28 times of Advanced Airbags

1 Except rear end collisions on dry roads ²Single vehicle accidents and head-on collisions; Remark: all studies are based on different approaches and databases: SOURCE: BOSCH

Quickly and Equitably

- Mandating UN Regulations 94 & 95 in 2012 – 15 years behind EU
- Mandating ESC (UN Regulation 140) in 2018 - 7 years behind EU

- Shorten it further? In 2 years?

Quickly & Equitably to LMC

- Make profound Scientific Evidence available and accessible – Benefits, impact, and significance of implementing the technology
- Make technology costing transparent
- Identifying critical success factors and implementation paths on rolling out technology systematically for LMC

- What is the best affordable technology
- Which approach to utilize
- Where it should be implemented
- When it should start at any stage
- How all should come together

Thank you
Tack!

wongsv@upm.edu.my

INPUT TO RESEARCH QUESTIONS

Suitable to address at the SAFER platform

Based on the talks today – which research questions and project needs do you see are of interest for you to address on the SAFER research platform?

Mentimeter

- Continue to develop HBMs
- Democratizing vehiclesafety
- SAFER can define the Safe System Principles!
- I love the statement from Prof Wong: "How all should come together"!
- How do we get collision data and existing technology fitment data for each country - to support definition of appropriate countermeasures?
- Child safety data, both inside and outside vehicles, pedestrian or on two wheelers?
- Collecting and using data
- Continuation from Cecilia's thoughts on Data, Models, Strategies. Are other key areas needed, can we deepen the content within these headings?
- Peoples' attitudes, habits etc. have to be studied as well. Technology alone will not do the trick. We need a societal attitude change about transportation.
- Scientific evidence showing the effectiveness and cost of technology
- How to ensure use of safety equipment, features & technology - where technology can be an enabler to secure the use! (by e.g. influencing behaviour, nudging...)
- Shifting focus on safety systems for vulnerable road users. Technology sharing across countries to save time and money. Increasing public awareness about current safety statistics.
- i think the result of all the data, informations, publications, softwares,.. must to be translated to many other languages, especially for low and middle income countries, and where the crash rates are high.
- V2X implementation needs to be accelerated, with or without advanced automation.
- how will researcher gets financing for this, with demand for 50% from the industry
- Work with use cases and scenarios to put solutions in a bigger contex, include legislatiin, behaviour etc
- Seeing all presenters mention LMIC is something I would like to see further explored.
- In addition to safety, we also need to look at efficiency for non-motorised road users.

INPUT TO RESEARCH QUESTIONS

Suitable to address at the SAFER platform

ODD operational design domain is very hype regarding autonomus drive. We need to lift the sight and put the ODDs in a bigger context which i call SDD, strategic design domain. Include behaviour, culture, policies, infrastructure etc.

Include the insurance challange. How can the insurance companies dare to insure the vehicles/drivers?

How to apply technology properly in low and middle income countries

In case of low income countries, it appears that investments in safe INFRASTRUCTURE is more efficient and fair. While a modern car protects further the people who are already 'at the top', infrastructure protects all road users.

Infrastructure needs to be tightly integrated with vehicle automation, for traffic safety.

To evaluate what are the effectiveness of the current ADAS legal demanded system avaliable.

Bike to vehicle interaction Btv

Data. There's a lot, but also a lot of data that might be difficult to get hold of. And difficult to organise. How can this be improved?

Can we engage with relevant groups to define costs for technological options?

Can we link with other countries to get first-hand knowledge on the issues?

How yo balance cost for a safe car vs continue using PTW. If several safety system will be mandatory will this transfer be slowed down?

I would like to co ooerate with bangladesh to implement the agenda 2030, which the swedish gov and bangladesh decided to do 2017. There are sooo much to do in Bangladesh.

Trade-off for Safety measures on component vs system level

Legal demand is a way to "lower the prices" and get the actice and passive safety system avaliable, but the effectiveness of these systems are important to evaluate.

PTW also need to be equipped with active safety, such as V2X.

How to ensure quality of data in low- and middle income countries

If we want a modal shift, we also have to make driving more difficult/ expensive/ complicated/ socially inacceptable. The shift cannot be done only by trying to lift other transport modes, but leaving the car alone.

Connected & Automated mobility - how to take advantage of these new possibilities to enhance safety ,also for VRU and LMIC?

Multistakeholder approach to technology development: academia, industri, Society, communities,

spread the technology to "everyone" together with improving infrastructure

Borderless traffic safety research

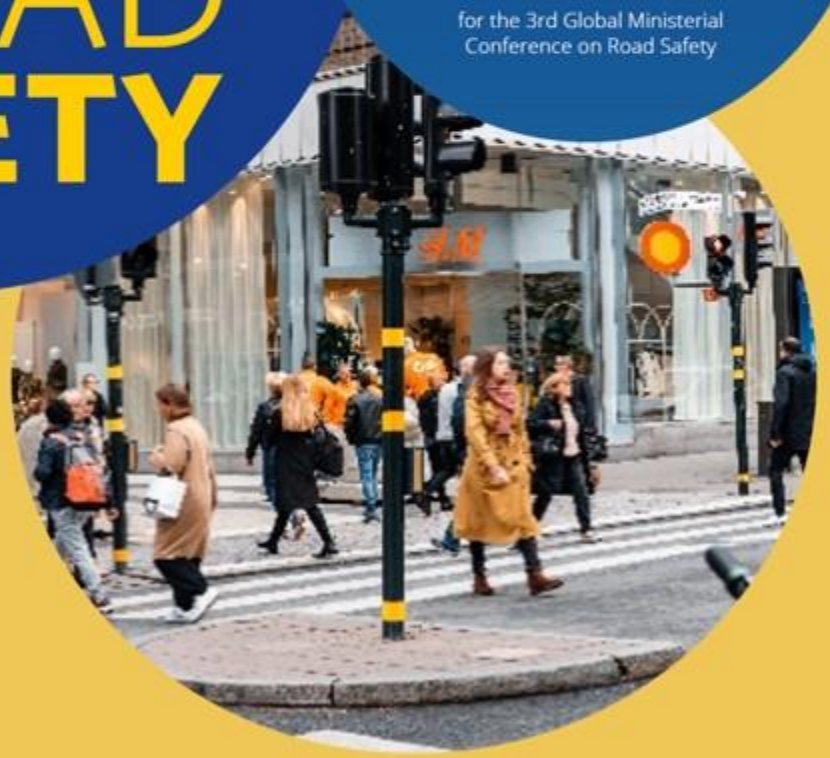
- setting the plan towards 2030

3RD GLOBAL MINISTERIAL CONFERENCE on ROAD SAFETY

SAVING LIVES BEYOND 2020: THE NEXT STEPS

Recommendations of the Academic Expert Group

for the 3rd Global Ministerial Conference on Road Safety



Session #2: Integration of road safety in the SDGs

How to connect to other Sustainable Development Goals to gain momentum

February 25, 11:30-13:00

OUR EXPERTS

Supporting us in building our knowledge ahead

- Prof. **Claes Tingvall**, Chalmers University of Technology and Chairman of the Academic Expert Group
- Adj Prof. **Maria Krafft**, Swedish Transport Administration and member of the Academic Expert Group
- **Daniel Helldén**, Vice Mayor of Traffic in Stockholm
- **Pedro Homem de Gouveia**, Coordinator for Road Safety & Security, POLIS network
- **Matthew Baldwin**, DG MOVE Deputy Director General - European Coordinator for Road Safety

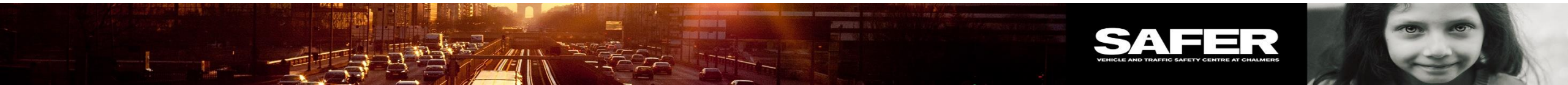
Prof. Claes Tingvall

Adj. Prof. Maria Krafft

Daniel Helldén

Pedro Homem de Gouveia

Matthew Baldwin



ADJ. PROF. MARIA KRAFFT

Road safety in a broader context

Maria Krafft
Swedish Transport Administration

TRAFIKVERKET
SWEDISH TRANSPORT ADMINISTRATION

THE GLOBAL GOALS
For Sustainable Development

Good Health and Well-being
By 2030, halve the number of global deaths and injuries from road traffic accidents.

Sustainable cities and communities
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.

”Public procurement is 10–20 % of world GDP”

Responsible consumption and production

- Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle.
- Promote public procurement practices that are sustainable, in accordance with national policies and priorities.

Resolution from the UN:s General Assembly, september 2020.

- *A part from the Resolution*

Calls upon businesses and industries of all sizes and sectors to contribute to the attainment of the road safety-related Sustainable Development Goals, including by applying safe system principles to their entire value chain, as appropriate and in line with national laws;

Road safety – part of a sustainable society

Climate change

Equity

Democracy

Health

Poverty

”The Goals
in SDG are
absolute and indivisible”

Safe system approach

- Assume that people make mistakes
- Having safety as a boundary condition based on biomechanical tolerences for the human body
- Best practice


TRAFIKVERKET
SWEDISH TRANSPORT ADMINISTRATION
TOP CENTURY SHOPPING SQUARE

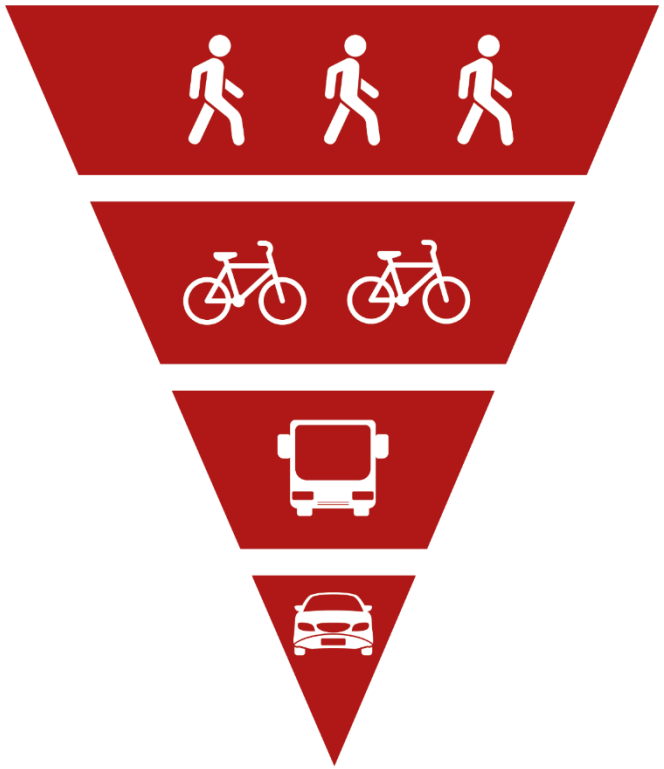
Evolution of the global road safety work

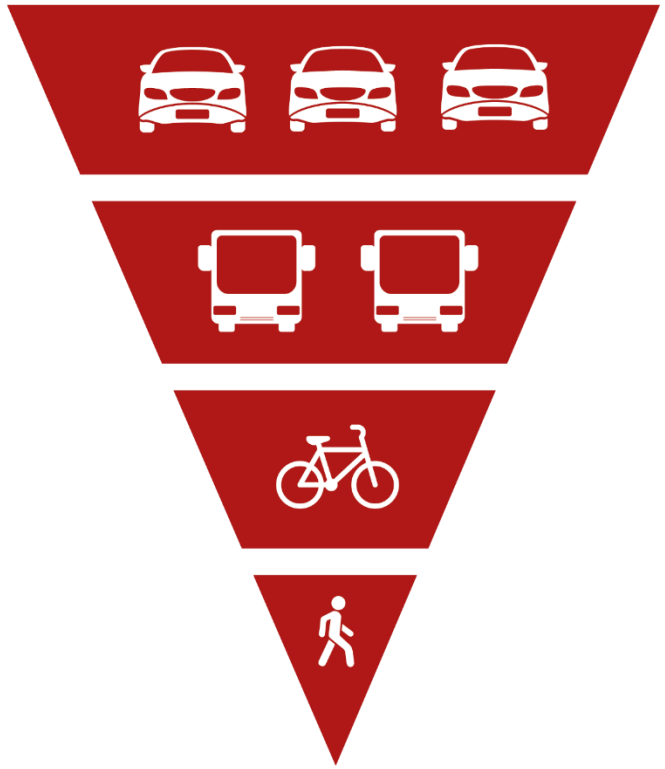
Saving lives beyond 2020

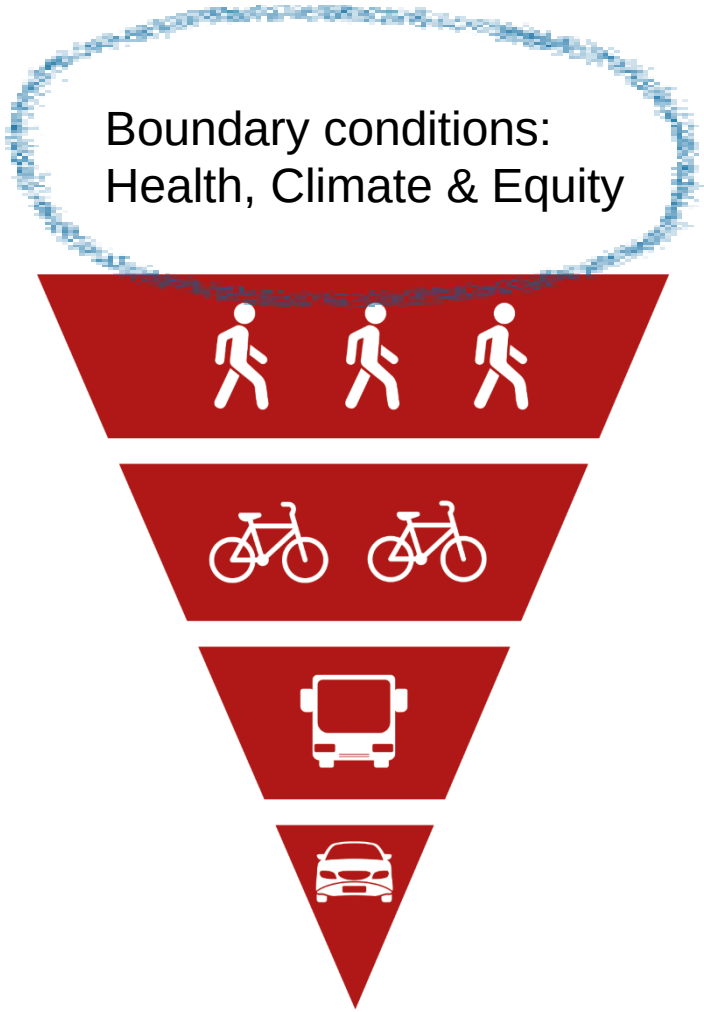
– Recommendations from the international Academic Group

- Sustainable Practices and Reporting
- Procourment
- Modal Shift
- Child and youth health
- 30 km/h
- Infrastructure
- Safe vehicles across the globe
- Zero speeding
- Technology

Modal shift - The traffic pyramid in cities

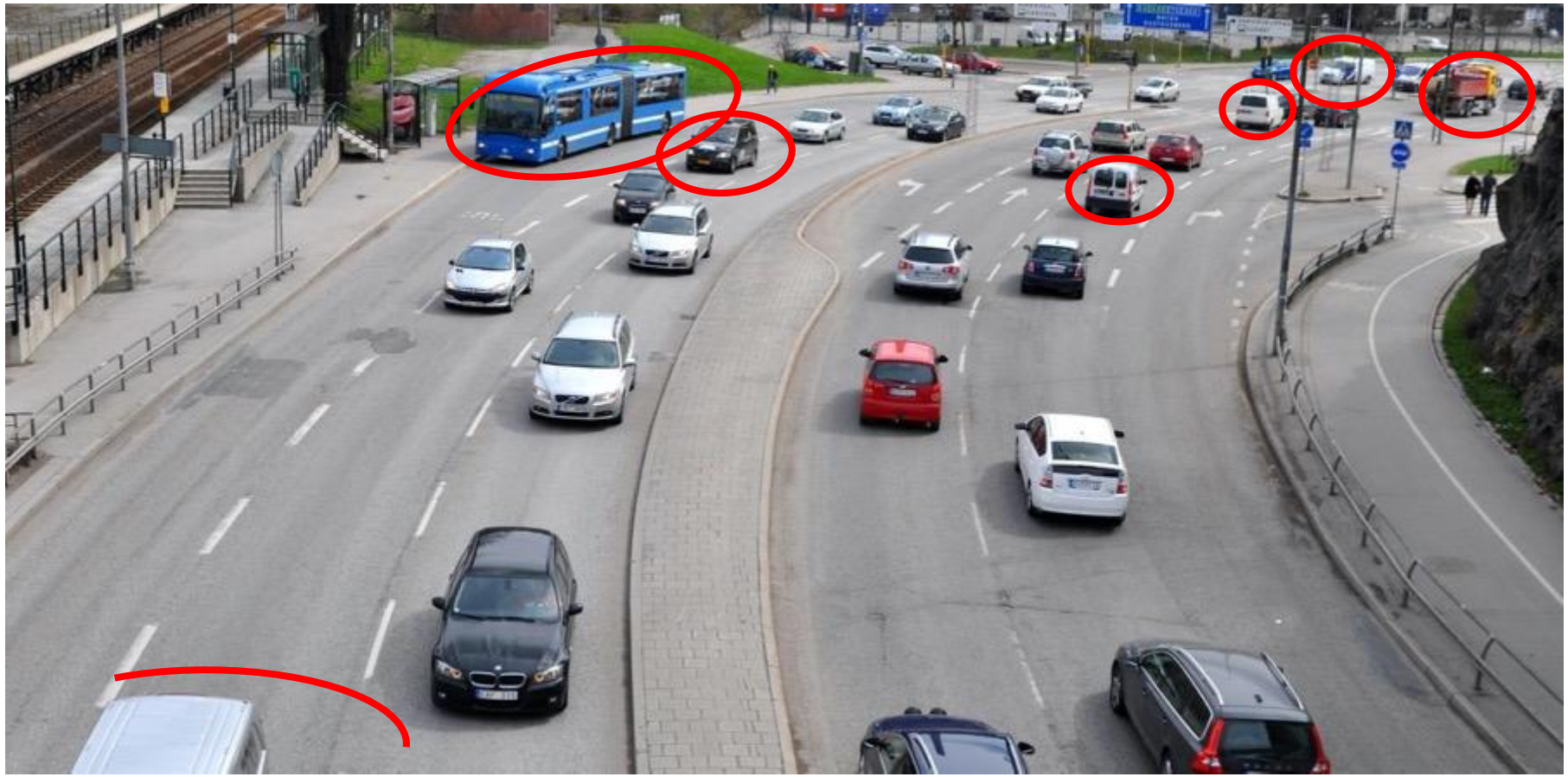






TRAFIKVERKET
SWEDISH TRANSPORT ADMINISTRATION

Non Speeding - Traffic Safety footprints



TRAFIKVERKET
SWEDISH TRANSPORT ADMINISTRATION

1. PHEV has a button that fixes the care in full electric mode, city mode. Is it possible to design cars with a low speed mode button that fixes the speed under 30 km/h and also makes it comfortable to drive in low speeds? Breaks, steering etcetera optimised for low speed.
2. I would like a study on how parking in the streets in residential areas effects traffic safety and the tendency for children and young people to bike.
3. Would it be possible to have personal air meters that shows, in real time, the air quality and collect the results so that we can see how it changes over time in I city.

The top three research questions to address today's topic according to Mr Daniel Helldén

1. How do we get road safety authorities to **gather the right data** – first, deaths and serious injuries, but then the crucial KPIs e.g. on speed, vehicles, infrastructure?
2. How do we **disseminate** within the road safety community the **KNOWN research outcomes**, the solutions to road safety problems, rather than just digging deeper and deeper into further research?
3. How do we **help other countries**, notably in the Global South, take on Vision Zero / the Safe System?

The top three research questions to address today's topic according to Mr Matthew Baldwin

PEDRO HOMEM DE GOUVEIA

Getting (the right) Stuff Done.

POLIS
CITIES AND REGIONS FOR TRANSPORT INNOVATION

UN Seminar with Academic Expert Group
February 25th, 2021

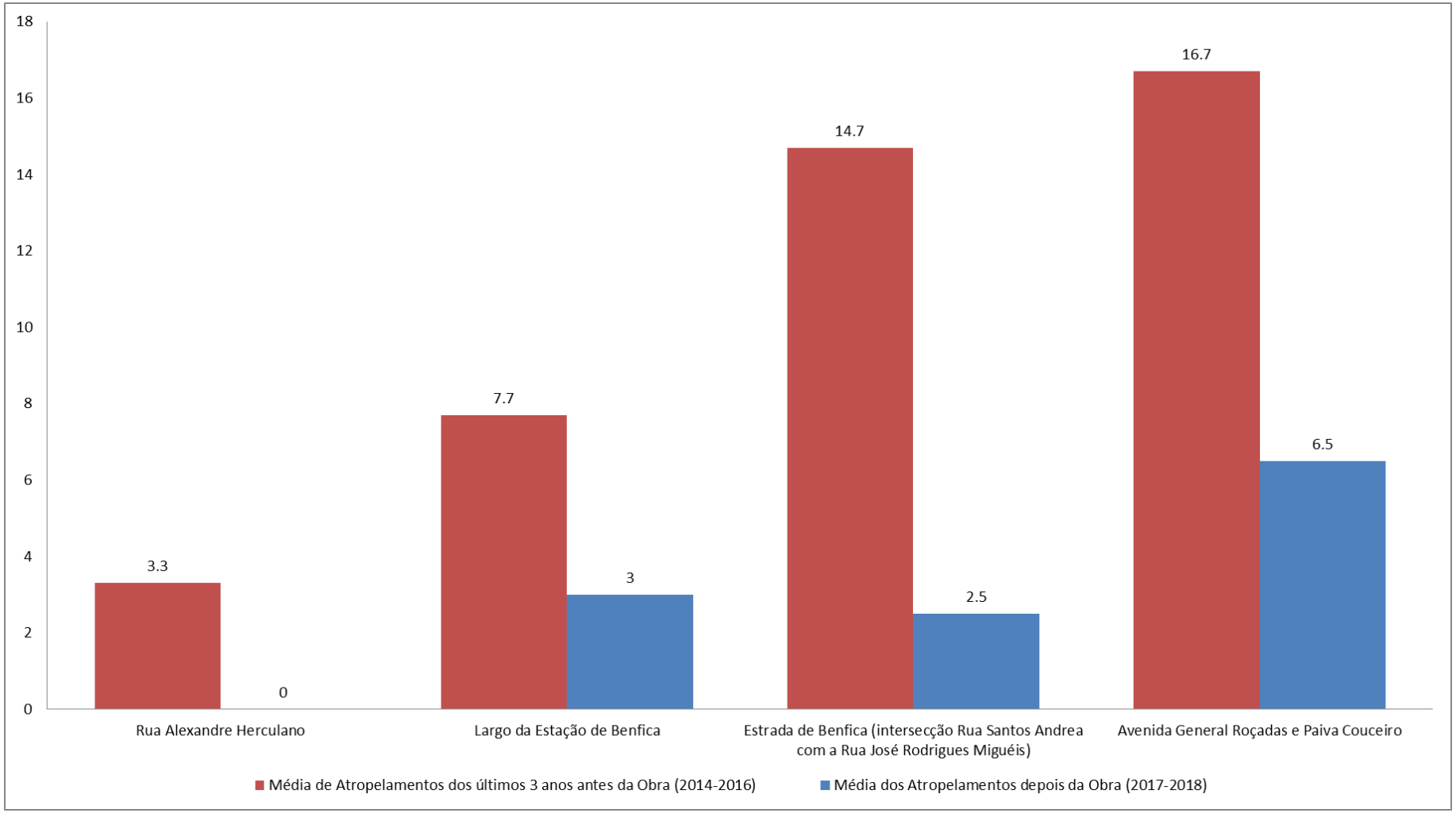

R. Dr. Lacerda e Silva
P
Google
Image capture: Sep 2018
© 2021 Google
Belgium
Terms
Report a problem

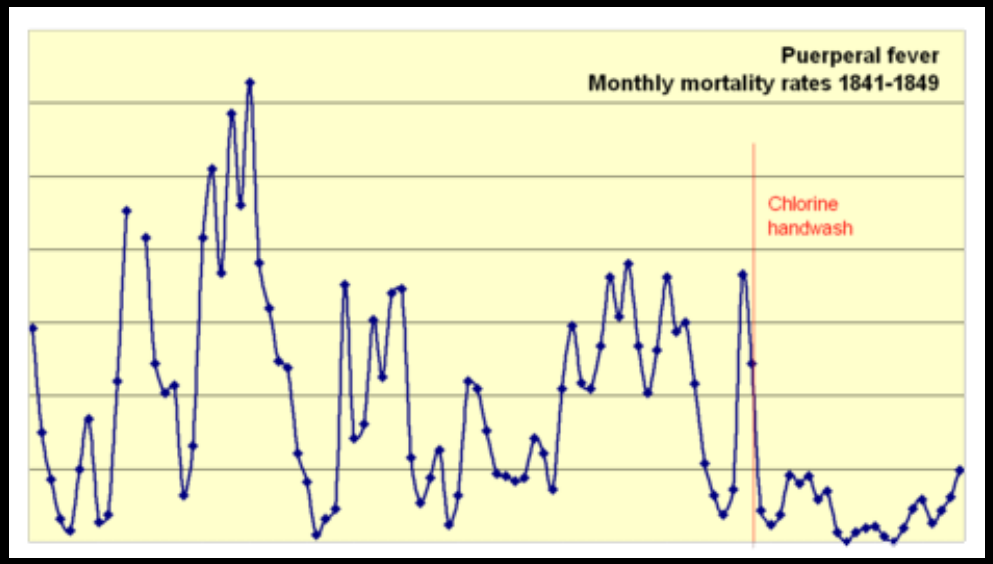

Junta de Freguesia
Igreja Penha de França
Comando Geral Polícia
Escola Luísa de Gusmão
Mercado Sapadores
Correios
BASMATI CAFE
Tecni Abrantes
Ascensores

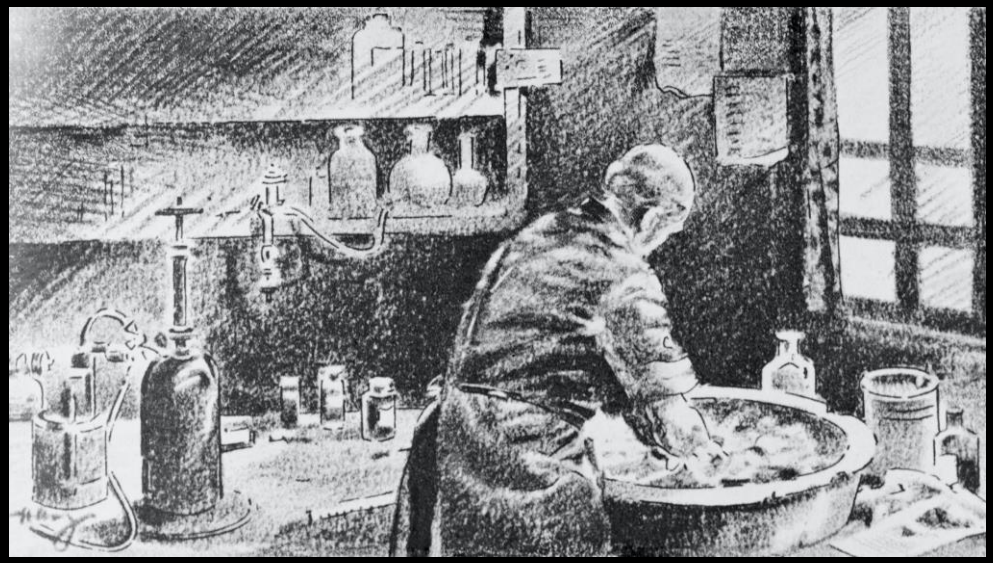
Pedestrian Crashes, Before & After

[average 2017-18 vs. average 2014-16]

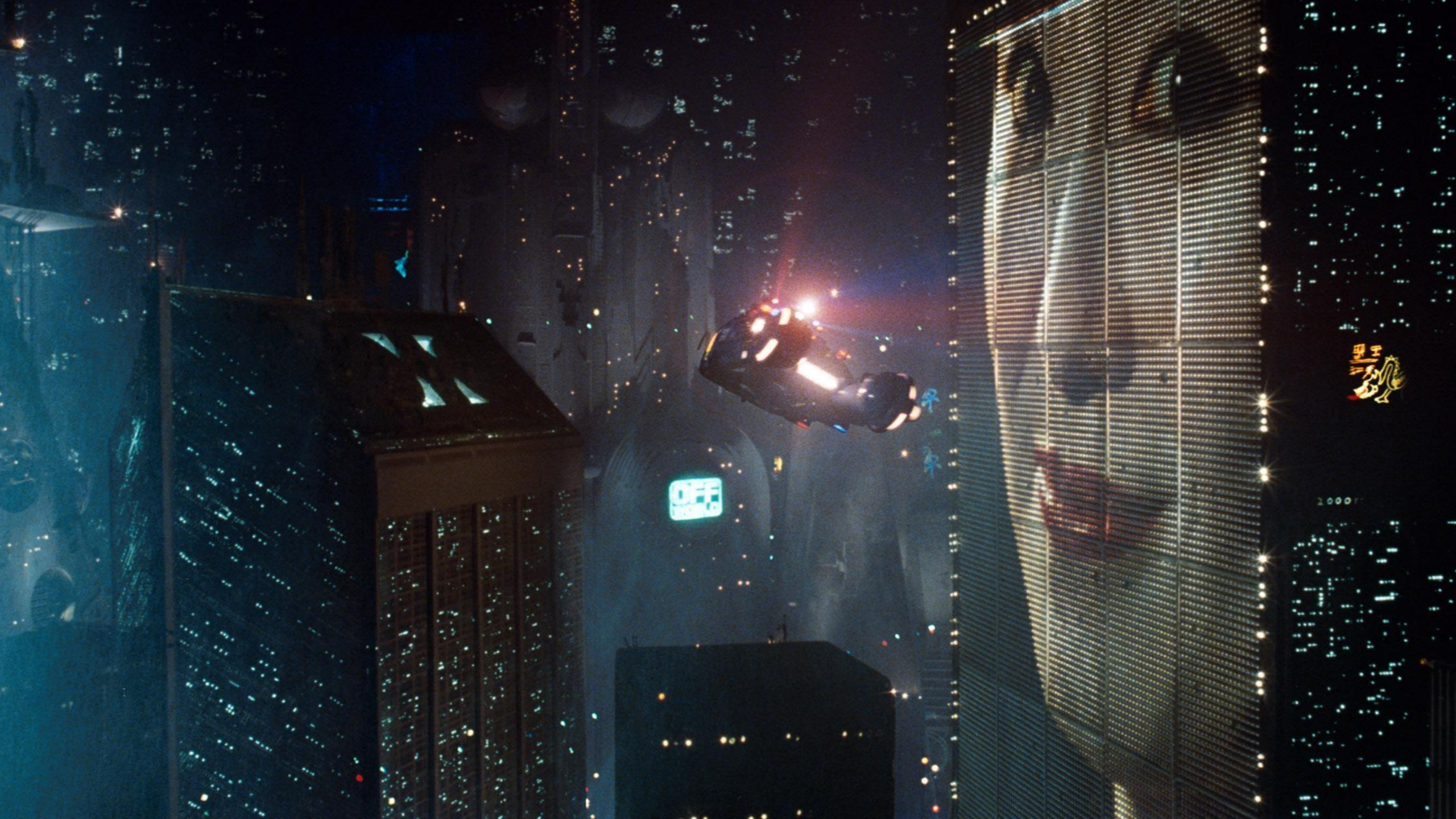
(AI + 5 meters)



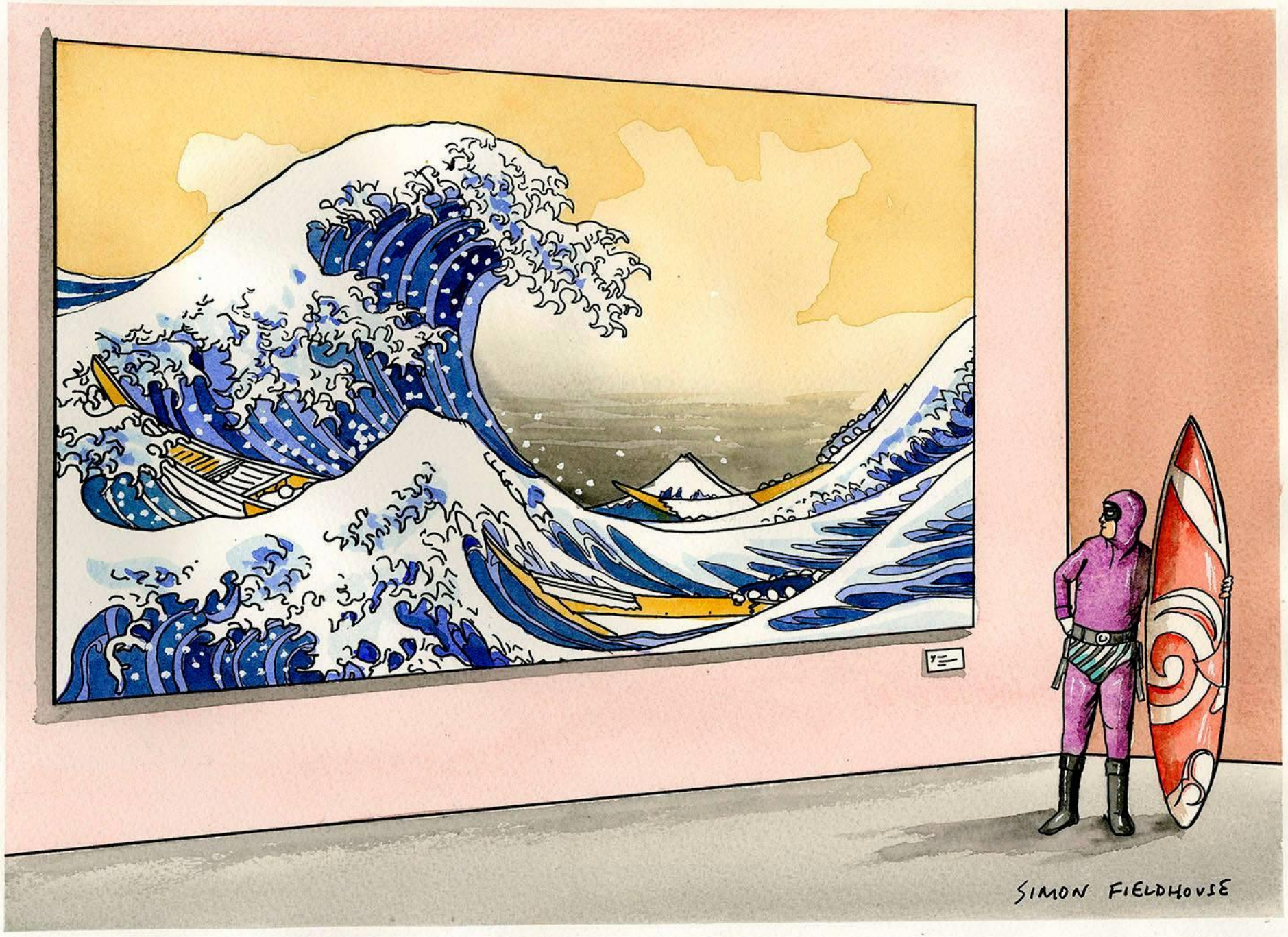




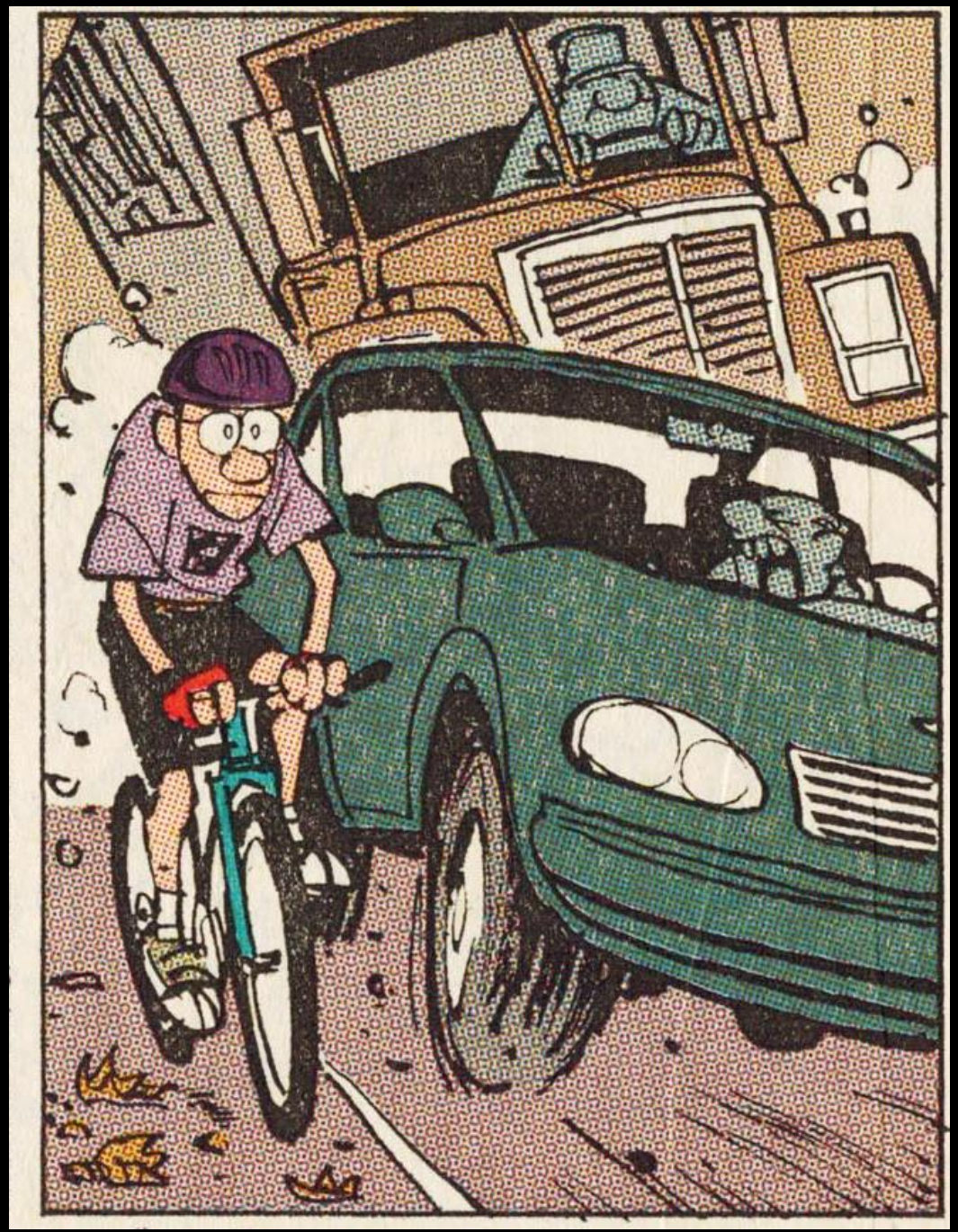
Ignaz Semmelweis (1818-1865)


OFF


DATAAAAA!!!


SIMON FIELDHOUSE


1



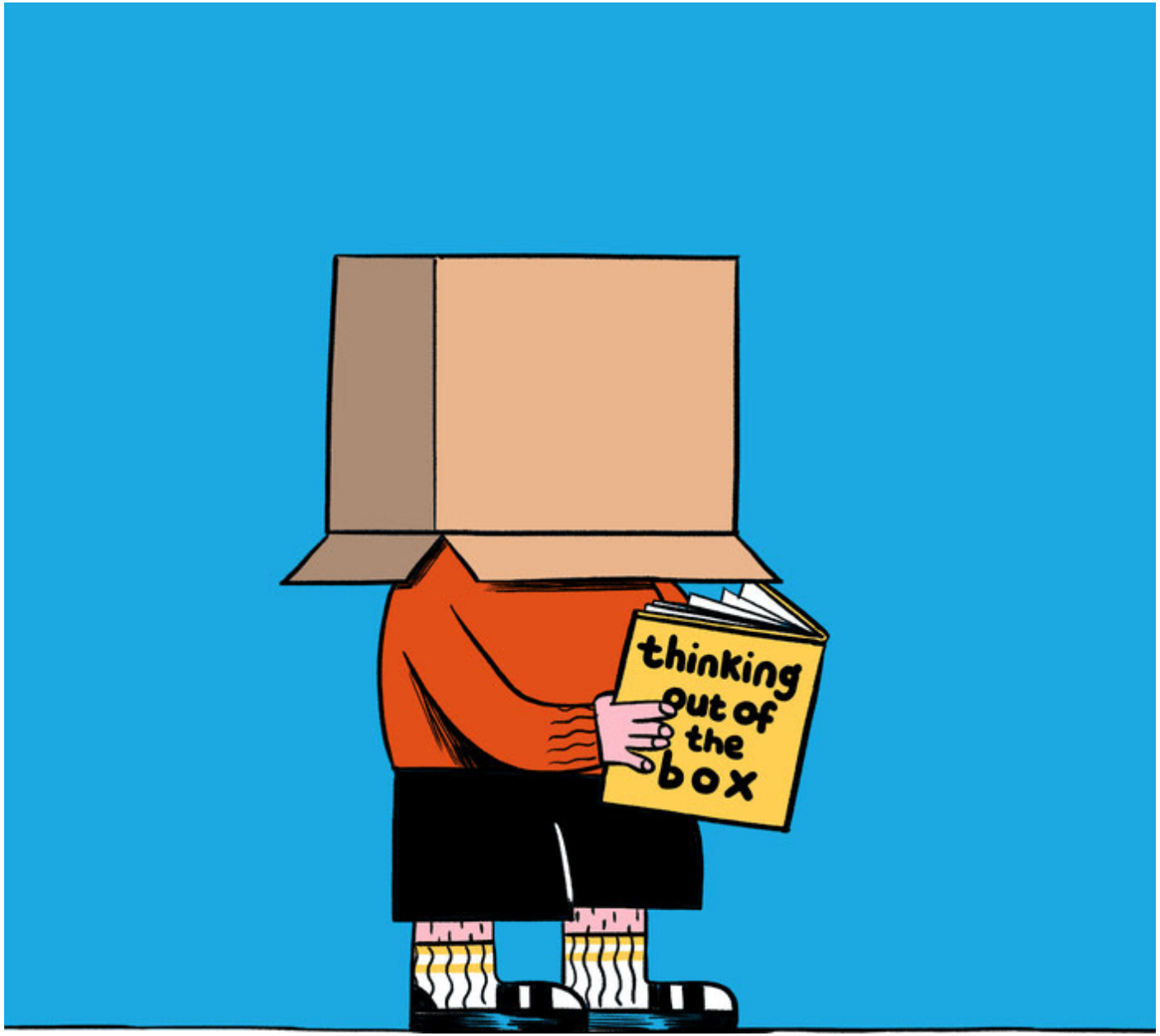
Question # 1

How can we RE-INVENT urban streets and rural & suburban roads?


2

"What if we don't change at all ...
and something magical just happens?"


ESTABLISHMENT OF THE COMPROMISING WITH IDIOTS MAKES YOU AN IDIOT PRINCIPLE
DIST. BY ANDREWS MCMEEL SYNDICATION
©2019 WILEY INK, LTD. 1-31
GOCOMICS.COM/NONSEQUITUR
WILEYINK@EARTHLINK.NET


thinking
out of
the
box

Question # 2

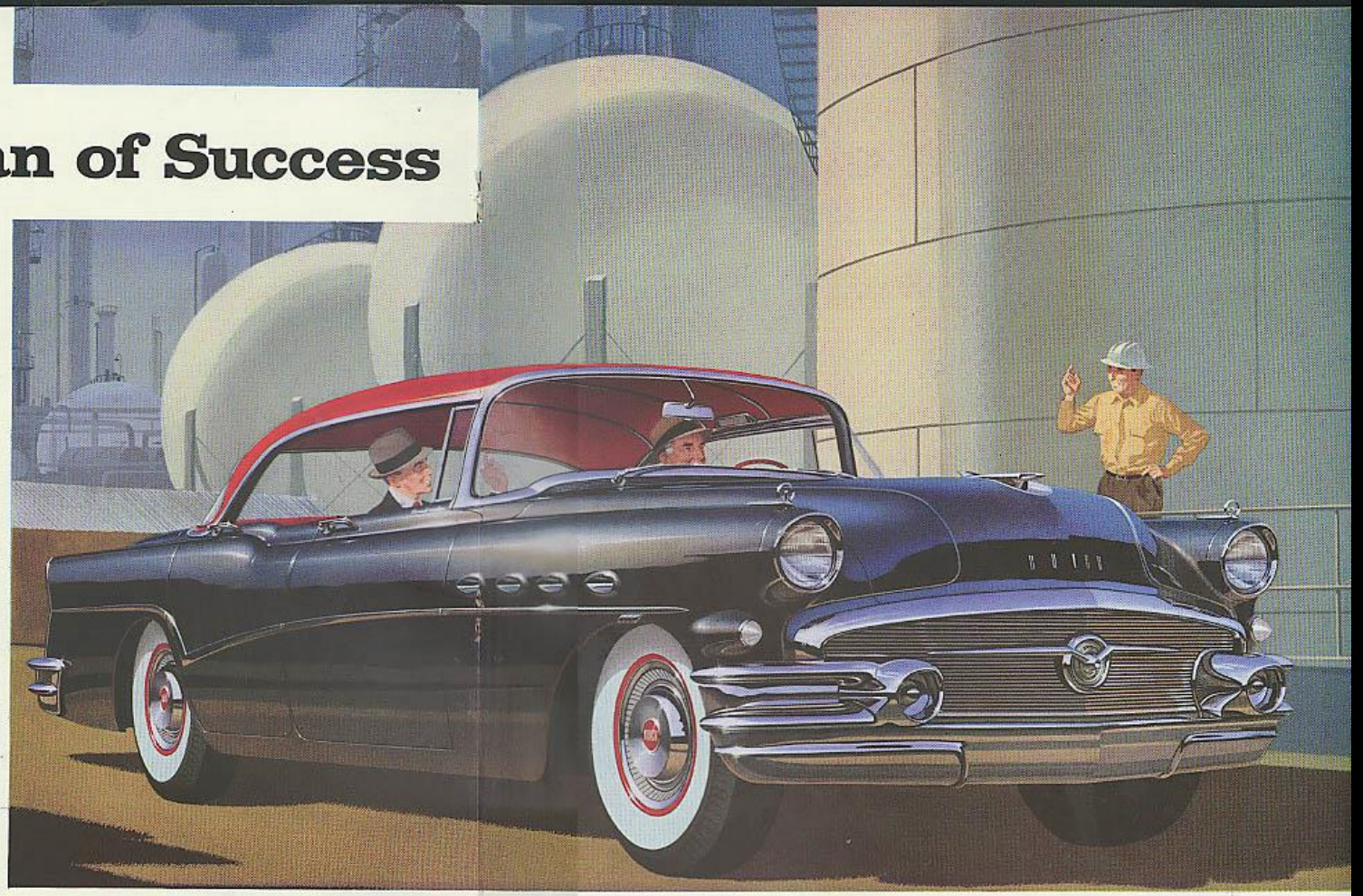
How can we BUILD CAPACITY for Change, among all actors, and fast?


3


MOM, WILL YOU DRIVE ME INTO TOWN?
WHY SHOULD I DRIVE YOU, CALVIN? IT'S A PERFECT DAY OUTSIDE!
WHAT DO YOU THINK PEOPLE HAVE FEET FOR?
© 1986 Watterson/Distributed by Universal Uclick
TO WORK THE GAS PEDAL.
WATTERSON
2-17

For the man of Success

–and with a mind of his own



When you come to think about it, Roadmaster makes a singularly fitting choice in fine cars for the man who likes to use his own judgment.

It's not the costliest of fine cars—but it measures up to a standard far more exacting.

And that is—Roadmaster stands at the top of a line of Buicks whose beauty and engineering and performance have brought them outstanding success. It begins with the things that have made all Buicks great and moves up to its own pinnacle.

This, we believe, is what appeals to the men who can afford to select worth over cost—value over ostentation.

They find here the many luxuries that only the cream of a successful line can bring—limited edition styling inside and out—the most bountiful power plant in all Buick annals—a ride of consummate comfort and restful ease.

But definitely unique to Roadmaster, in the world of fine cars, is the smooth and truly spectacular performance of Variable Pitch Dynaflow.

For only in Roadmaster, of all fine cars, can you command the one automatic transmission that is smooth to the absolute . . . and that takes its cue from the variable pitch propellers of a modern airliner.

Only in Roadmaster do you have the thrill of calling on split-second getaway at the top inch of pedal travel —with all the gas savings this economy range gives— or "switching the pitch" by flooring the pedal for a safety burst of power.

Don't you feeel the time has come to test the mettle of this master ccar yourself?

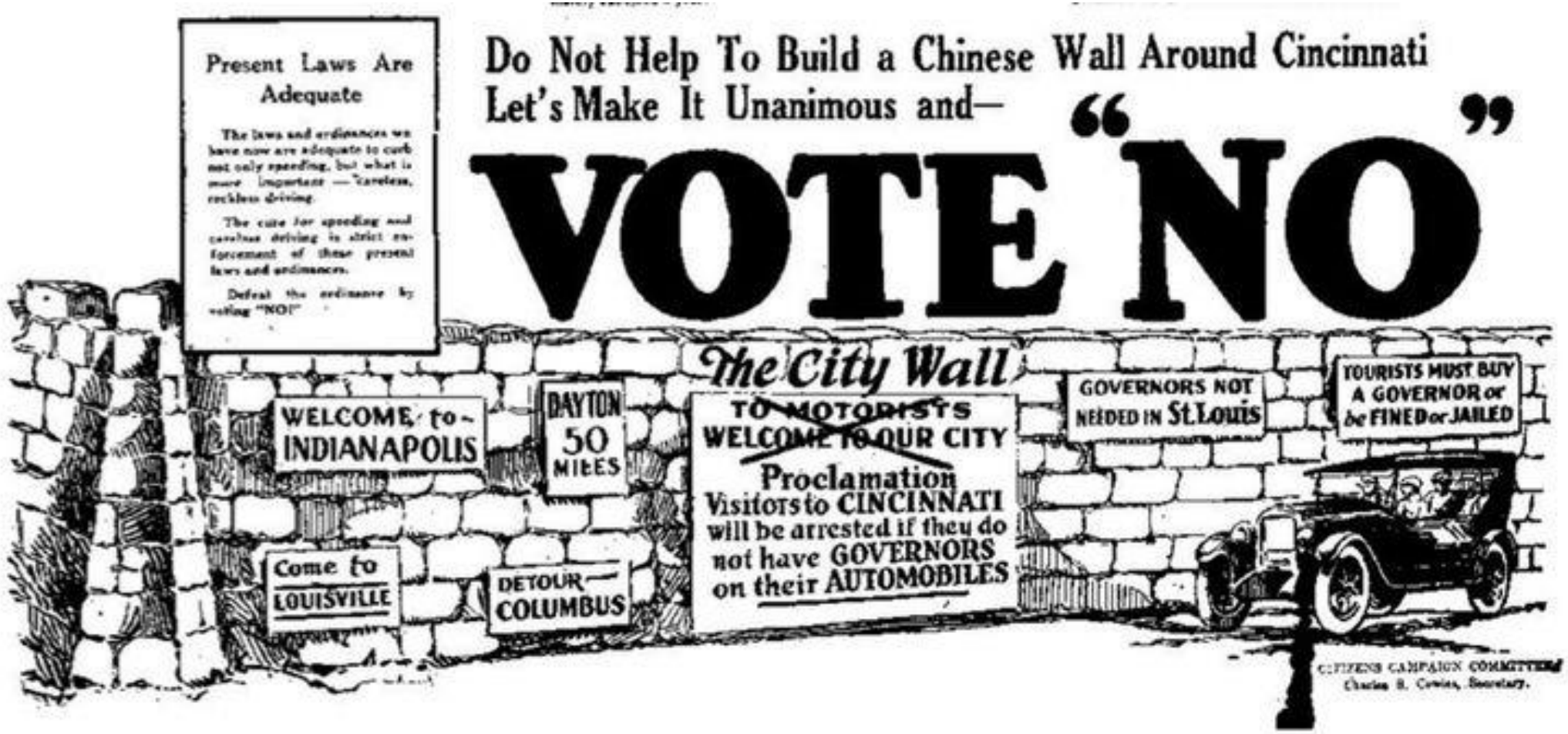
Your Buick dealer will be happy to arrange such a meeting at your earliest bidding. Why don't you make the first move and call him this week?

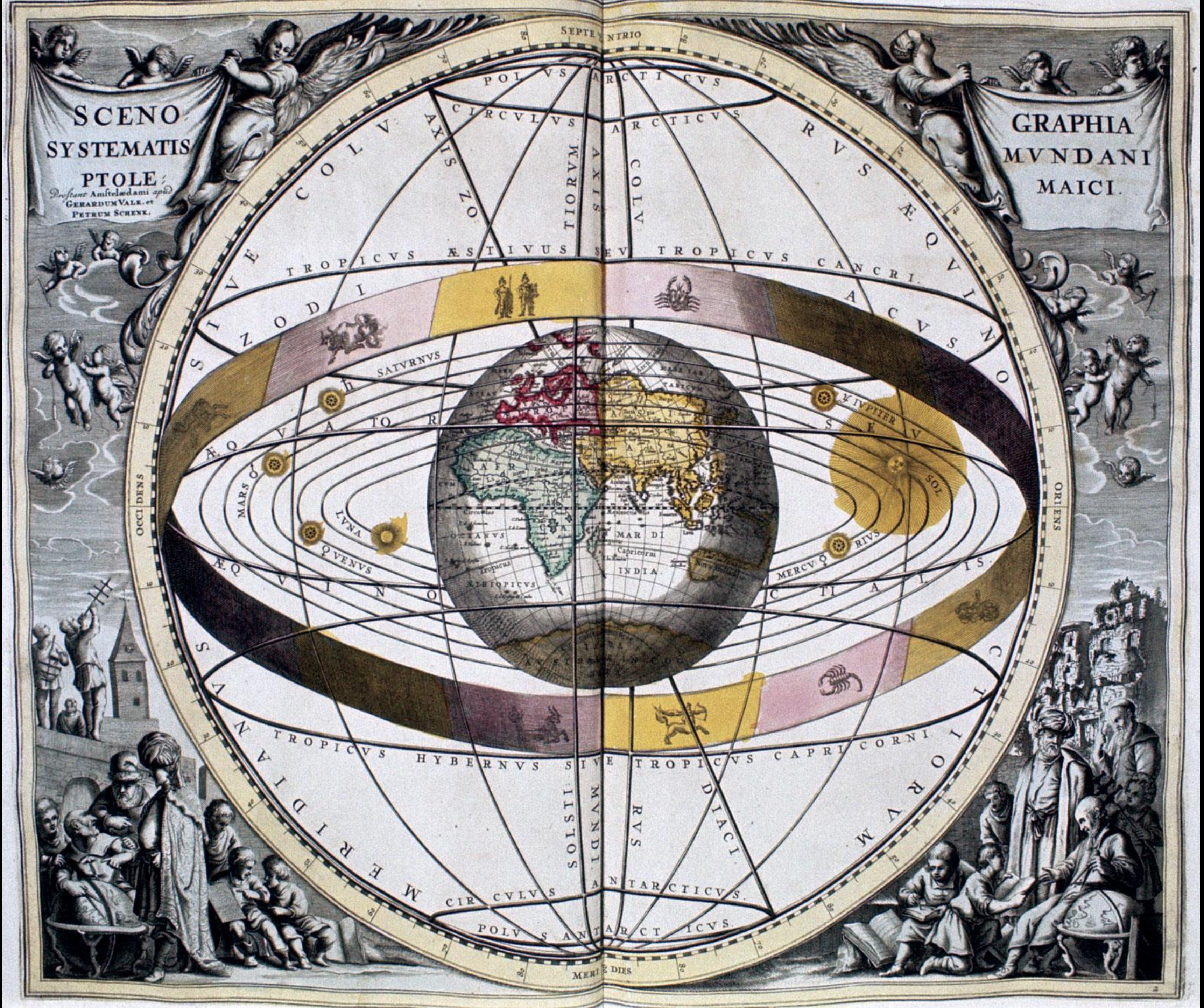
BUICK *Division of* GENERAL MOTORS

Roadmaster

Custom Built by Buick

When better automobiles are built Buick will build them


Present Laws Are Adequate
The laws and ordinances we have now are adequate to curb not only speeding, but what is more important — careless, reckless driving.
The cure for speeding and careless driving is strict enforcement of these present laws and ordinances.
Defeat the ordinance by voting "NO!"
Do Not Help To Build a Chinese Wall Around Cincinnati
Let's Make It Unanimous and—
"VOTE NO"
The City Wall
WELCOME to INDIANAPOLIS
DAYTON 50 MILES
Come to LOUISVILLE
DETOUR COLUMBUS
TO MOTORISTS
WELCOME TO OUR CITY
Proclamation
Visitors to CINCINNATI will be arrested if they do not have GOVERNORS on their AUTOMOBILES
GOVERNORS NOT NEEDED IN St. Louis
TOURISTS MUST BUY A GOVERNOR or be FINED or JAILED
CITIZENS CAMPAIGN COMMITTEE
Charles S. Cowles, Secretary.


SCENO
SYSTEMATIS
PTOLE:
Prostant Amstelædami apud
GERARDUM VALK, et
PETRUM SCHENK.
GRAPHIA
MUNDANI
MAICI.
SEPTENTRIO
POLUS ARCTICUS
CIRCULUS ARCTICUS
SIVE COLURUS ÆQUINOCTIORUM
ZODIACUS
AXIS ZODIACI
COLURUS SOLSTITIORUM
AXIS MUNDI
TROPICUS ÆSTIVUS SEU TROPICUS CANCRI
SATURNUS
JUPITER
SOL
MARS
LUNA
VENUS
MERCURIUS
ÆQUATOR SEU ÆQUINOCTIALIS
OCCIDENS
ORIENS
TROPICUS HYBERNUS SIVE TROPICUS CAPRICORNI
MERIDIANUS
CIRCULUS ANTARCTICUS
POLUS ANTARCTICUS
MERIDIES

Question # 3

How can the Automotive sector evolve in terms of product, marketing, jobs?

...thank you ☺

...and **join us**!

Pedro Homem de Gouveia
Coordinator, Safety & Security

pgouveia@polisnetwork.eu

1. Which **tools, rules and processes** from 2030 Agenda can we use to combine traffic safety with other sustainability issues?

2. How does **speed link to accessibility, climate, noise, air quality, security, livability** etc in combination with traffic safety? How do we create ”naturalistic studies” to find out? Whose perspective do we study?

3. How can traffic safety research and researchers reach out to researchers in **health, climate and equity**? Where do we find them?

The top three research questions to address today’s topic according to Prof. Claes Tingvall

INPUT FROM YOU!

Which actors do you think can add value for the traffic safety research community to connect to?

Mentimeter

- Municipalities
- Vechicle oem's
- Prop tech companies
- Citizens
- Multnational corporations supply chains
- Cities, mobility researchers
- The big tech companies - for intelligent traffic sensing
- 'sustainability community', incl. researchers, activists, polititians, etc.
- All
- Schools to make it a core part of the curriculum and parents to teach by example.
- Those working in Transport Offices for large companies - they have responsibility for reporting sustainability of operations, and tremendous purchasing power.
- independent consultants and researchers
- Startups, non-profits, local communities.The municipalities should share more specific and detailed information about existing safety issues and their safety goals.So that those actors can get more actively involved in solving those issues.

INPUT FROM YOU!

Based on the talks today – which research questions and project needs would be of interest to you to address through the SAFER research platform?

Mentimeter

What are the means for collecting the data that contribute to Urban Road Safety KPIs?

Understand why deployment isn't happening. How to get the "vaccine" out, especially to the south?

Tire and brake emissions and effect on human health

design of urban environment - using design tools and design thinking to develop infrastructure that works for cykling and walking.

The big issue is the funding there is no money that support Pedros ideas

Support deployment by developing tools, way of working, metodology....

What data can help the road safety engineers to move faster with applying the safety-related changes into road environments?

Borderless traffic safety research

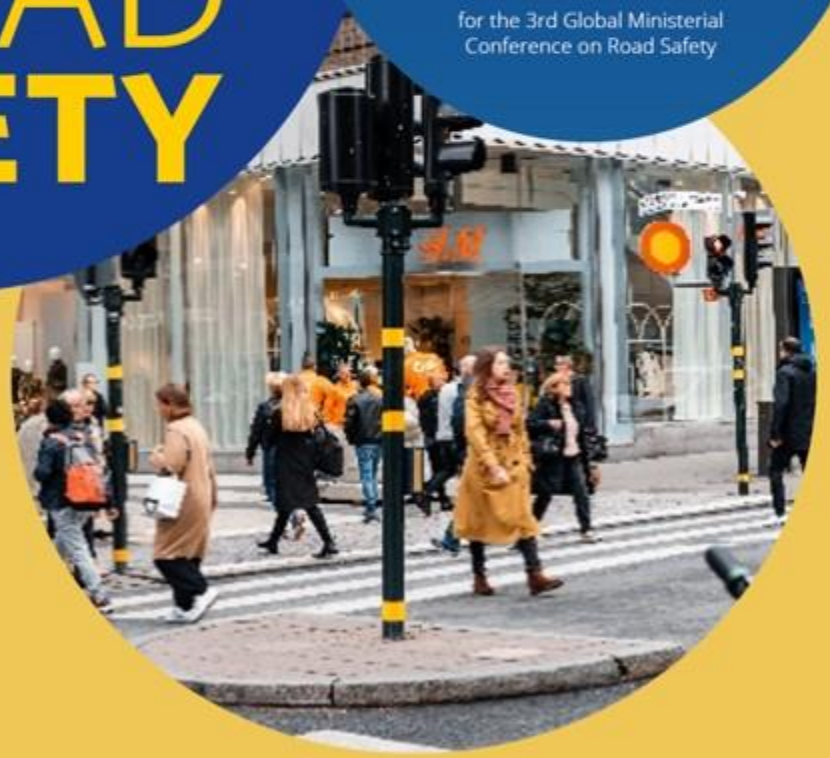
- setting the plan towards 2030

3RD GLOBAL MINISTERIAL CONFERENCE on ROAD SAFETY

SAVING LIVES BEYOND 2020: THE NEXT STEPS

Recommendations of the Academic Expert Group

for the 3rd Global Ministerial Conference on Road Safety



Session #3: The Value chain – reporting and procurement

Recommendation #1 and #2

March 31 15:00-16:15

OUR EXPERTS

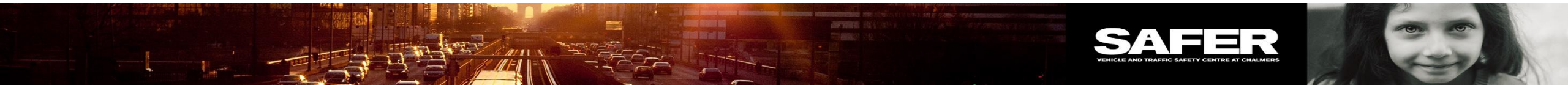
Supporting us in building our knowledge ahead

- Prof. **Claes Tingvall,** Chalmers University of Technology and Chairman of the Academic Expert Group
- Prof. **Maria Segui-Gomez**, Johns Hopkins Bloomberg School of Public Health and member of the Academic Expert Group
- **Elisabeth Munck af Rosenschöld**, Global Sustainability Manager, IKEA

Prof. Claes Tingvall

Prof. Maria Segui-Gomez

Elisabeth Munck af Rosenschöld



PROF. CLAES TINGVALL


Thanda
ठंडा
Coca-Cola
STOP

”Health, Climate and Equity”

”The Goals in SDG are absolute and indivisible”

”Sustainability practices and reporting”

”Public procurement is 10–20 % of world GDP”

”Public and Private Organisations in Partnership”

THE GLOBAL GOALS
For Sustainable Development

Good Health and Well-being
By 2020, halve the number of global deaths and injuries from road traffic accidents.

Sustainable cities and communities
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.

Responsible consumption and production

- Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle.
- Promote public procurement practices that are sustainable, in accordance with national policies and priorities.

Sustainable Practices and Reporting

In order to ensure the sustainability of businesses and enterprises of all sizes, and contribute to achievement of a range of SDGs including those concerning climate, health, and equity, we recommend that these organizations provide annual public **sustainability reports** including road safety disclosures, and that these organizations require the highest level of road safety according to Safe System principles in their **internal practices**, in policies concerning the health and safety of their employees, and in the processes and policies of the full range of suppliers, distributors and partners throughout their value chain or production and distribution system (Expert Group Recommendation)

14. *Call upon businesses and industries of all sizes and sectors to contribute to the attainment of the road safety related SDGs by applying safe system principles to their entire value chain including internal practices throughout their procurement, production and distribution process, and to include reporting of safety performance in their sustainability reports; (Stockholm Declaration Febr 2020)*

19. Calls upon businesses and industries of all sizes and sectors to contribute to the attainment of the road safety-related Sustainable Development Goals, including by applying safe system principles to their entire value chain, as appropriate and in line with national laws; (UNGA Resolution Aug 2020)

Road safety applied on value chain

Upstream

Raw materials

Suppliers

Downstream

Inbound logistics

Own operations

Road safety criteria in procurement to address logistics in supply chain

Road safety criteria in own operations practice

Road safety criteria in procurement to address distribution

Develop support systems for driver, connected cars etc.

Road safety criteria in procurement of backward logistics

Value Chain

AFRY
ÅF PÖYRY

Procurement

In order to achieve the Sustainable Development Goals addressing road safety, health, climate, equity and education, we recommend that all tiers of government and the private sector prioritize road safety following a Safe System approach in all decisions, **including the specification of safety in their procurement** of fleet vehicles and transport services, in requirements for safety in road infrastructure investments, and in policies that incentivize safe operation of public transit and commercial vehicles

Mechanism of sustainable procurement (SDG 12.7)

➢ **Public Procurement**

Sustainable procurement requires Member States to promote public procurement practices that are sustainable in accordance with national policies and priorities

With 10 to 20% of GDP, government procurement accounts for a substantial part of the global economy.

➢ **Private Procurement**

Sustainable Procurement are followed by those companies that fall under Sustainability Reporting (EU Directive).
These companies are obliged to report on SDG 12.6 (Sustainability reporting).

➢ **Sustainable Procurement**

The private sector can be influenced to integrate the SDGs into their business strategy by Sustainable Procurement (both private and public) putting a pressure on private sector regarding qualifying for tenders. This means that business needs to integrate the SDGs and their targets into their business strategy and value chain in order to comply.

Companies needs to do a stakeholder analysis, materiality analysis, risk analysis through their value chain and integrated the SDGs to their business strategy. This means that they are also measuring KPIs related to their assessment and report transparently, according to SDG 12.6 [3] – in order to qualify in public tenders.

1. How come the society and the legal system treats a workplace fatality occurring in road traffic differently to a fatality to a third party individual killed in an identical crash?

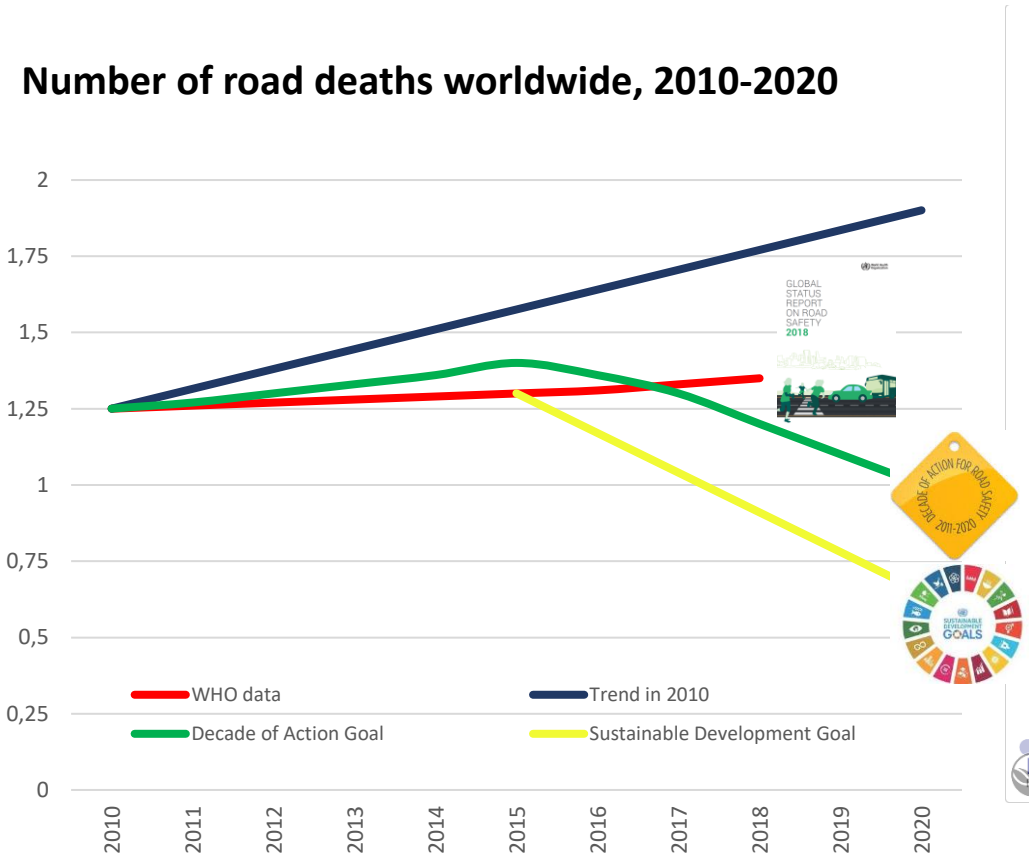
2. What is the validity and reliability of safety footprint figures from multinational corporation, and how can the data collection be organized?

3. What would be the effect of including traffic safety in public procurement?

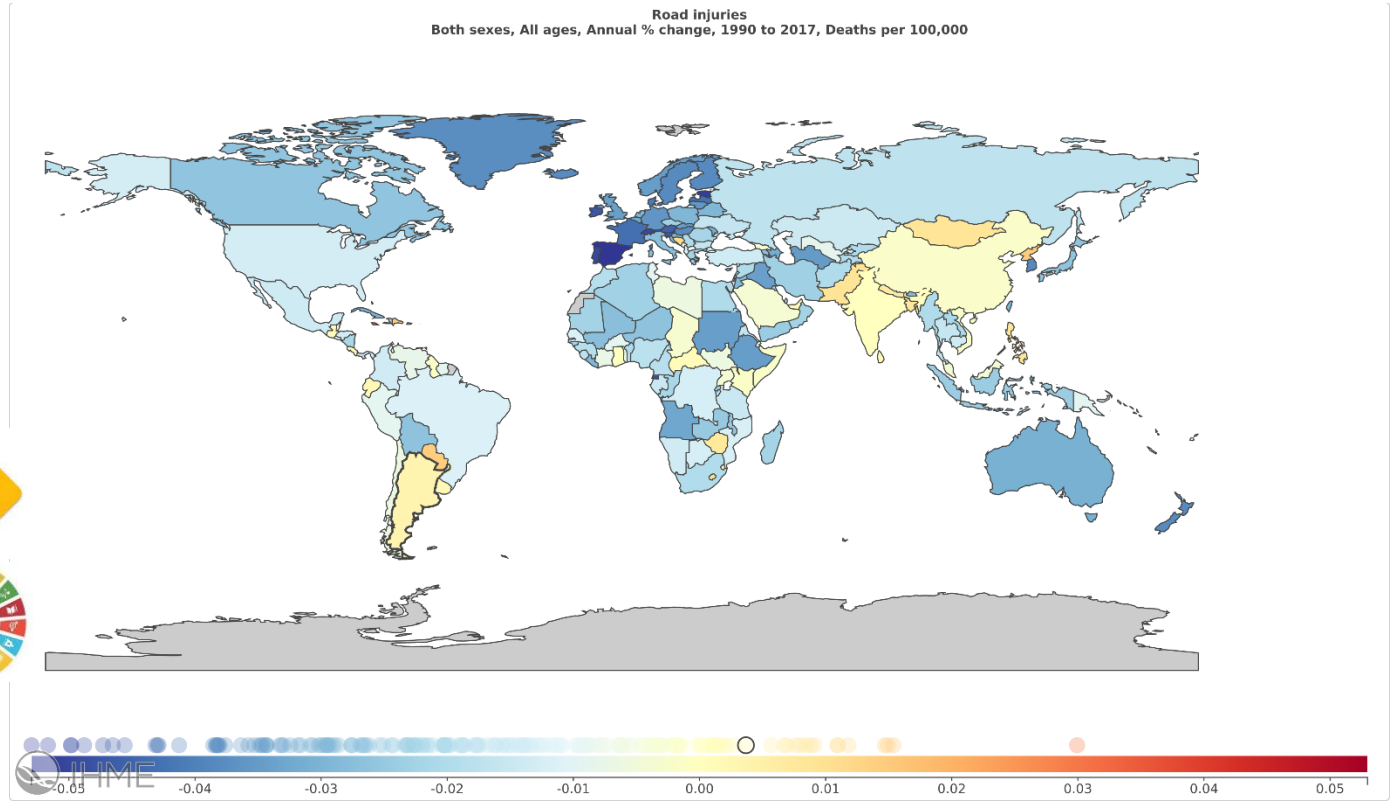
The top three research questions to address today's topic according to Prof. Claes Tingvall

PROF. MARIA SEGUI-GOMEZ

How is it going?



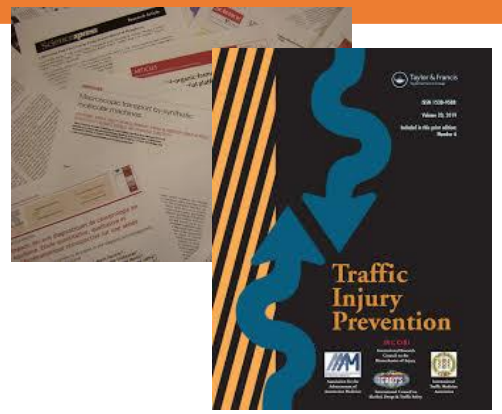
Source: Adapted from OECD, International Transport Forum, 2015



Source: IHME, accessed online Oct 12, 2020

Despite…. A plethora of papers and reports with recommendations (only a few shown)

Papers



Compilations

Recommendations

The most prevailing strategy: Blaming individuals

Source: vaccinesforroads.org/global-impact-of-injuries/ ,accessed October 2020

And endless possibilities. Multidisciplinary. Stakeholders

A.K.A The Xmas tree model

But –How have we built the transportation system?

- Infrastructure payment?
- Vehicle payment?
- Fuel generation and payment
- Mobility payments?
- Insurance –for what?

- Education outside the education system

- Taxes
- Levies
- (cross) subisidies
- Fines

The negative externalities (some examples)

- Wrong road design
  - User: drive carefully and know that we will be watching out for possible failures on your side
  - Vulnerable user: be careful because heavier and faster vehicles have preference
- Wrong vehicle design
  - User: drive carefully. We are watching
  - Even if my country prevents circulation of unsafe vehicles, I can still export them
- Wrong insurance scheme
  - let´s “cherry pick” to ensure our clients are good payees and good drivers who do not have costly claims
- Wrong governance
  - This is a zero sum game: for as long as all costs are covered, I don´t care who pays. Moreover, lobbies put pressure on me to ensure that the cost of their failures are passed on to others

…

Road Safety Footprint

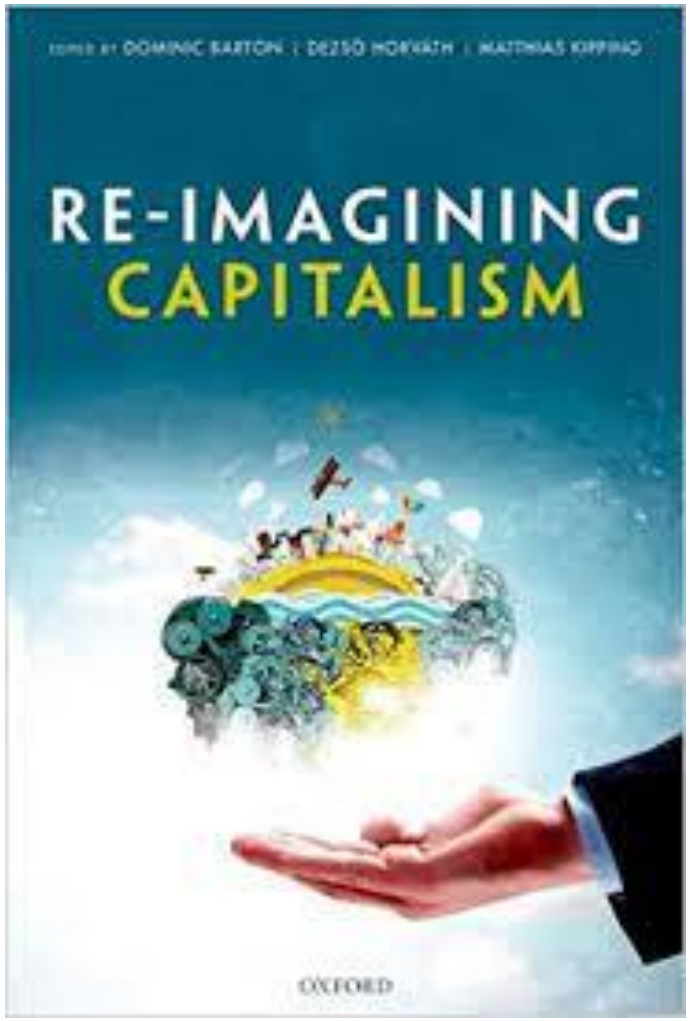


Figure 3. United Nations Sustainable Development Goals

SUSTAINABLE PRACTICES AND REPORTING:

including road safety interventions across sectors as part of SDG contributions.

PROCUREMENT:

utilizing the buying power of public and private organizations across their value chains.

MODAL SHIFT:

moving from personal motor vehicles toward safer and more active forms of mobility.

CHILD AND YOUTH HEALTH:

encouraging active mobility by building safer roads and walkways.

INFRASTRUCTURE:

realizing the value of Safe System design as quickly as possible.

SAFE VEHICLES ACROSS THE GLOBE:

adopting a minimum set of safety standards for motor vehicles.

ZERO SPEEDING:

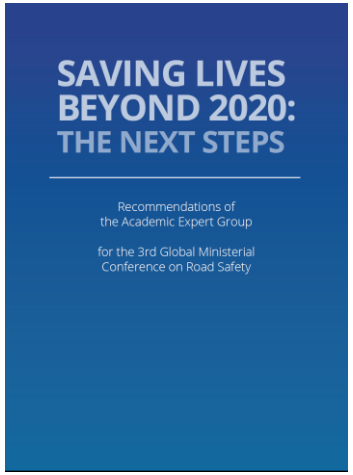
protecting road users from crash forces beyond the limits of human injury tolerance.

30 KM/H:

mandating a 30 km/h speed limit in urban areas to prevent serious injuries and deaths to vulnerable road users when human errors occur.

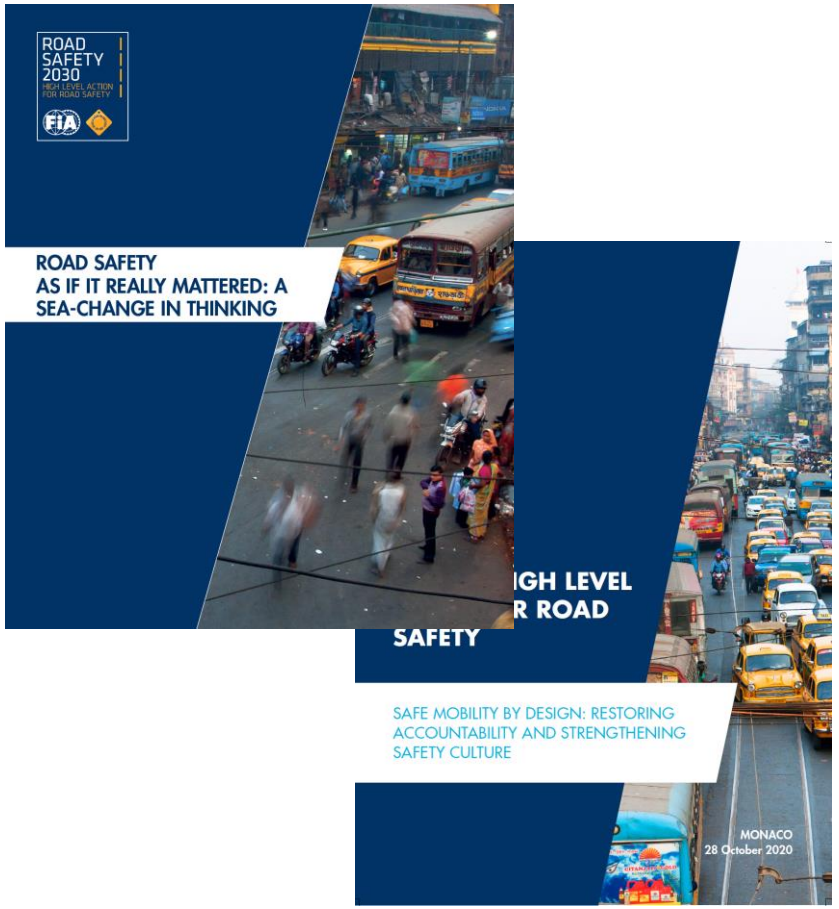
TECHNOLOGY:

bringing the benefits of safer vehicles and infrastructure to low- and middle-income countries.



Safety as a non-negotiable principle

- What guided the development of road transportation systems?
  - Speed
  - Freedom
  - Comfort
  - Economic profit



- And the misconception that crashes are the price to pay for economic development.

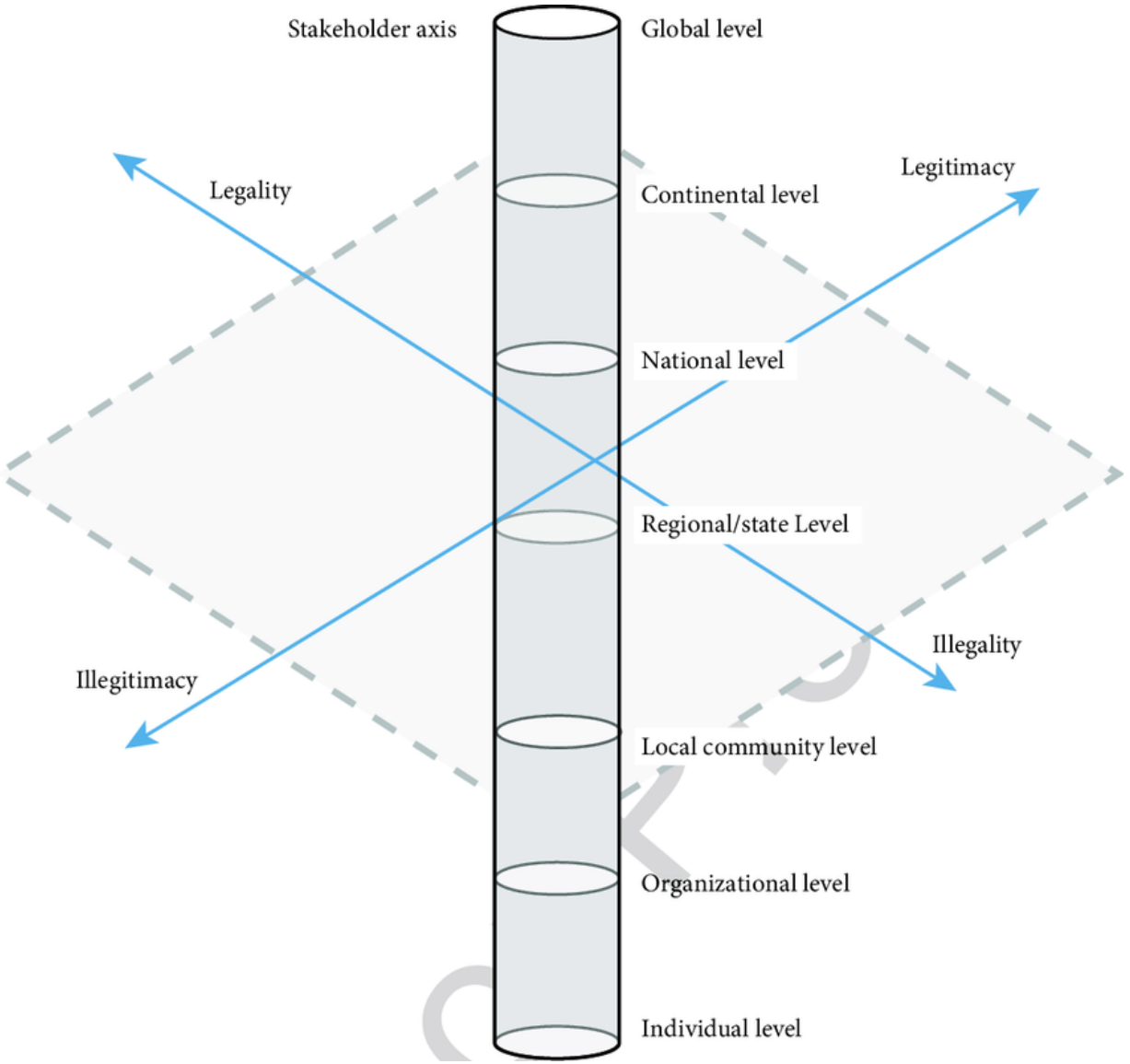
accountability noun

Definition of *accountability*

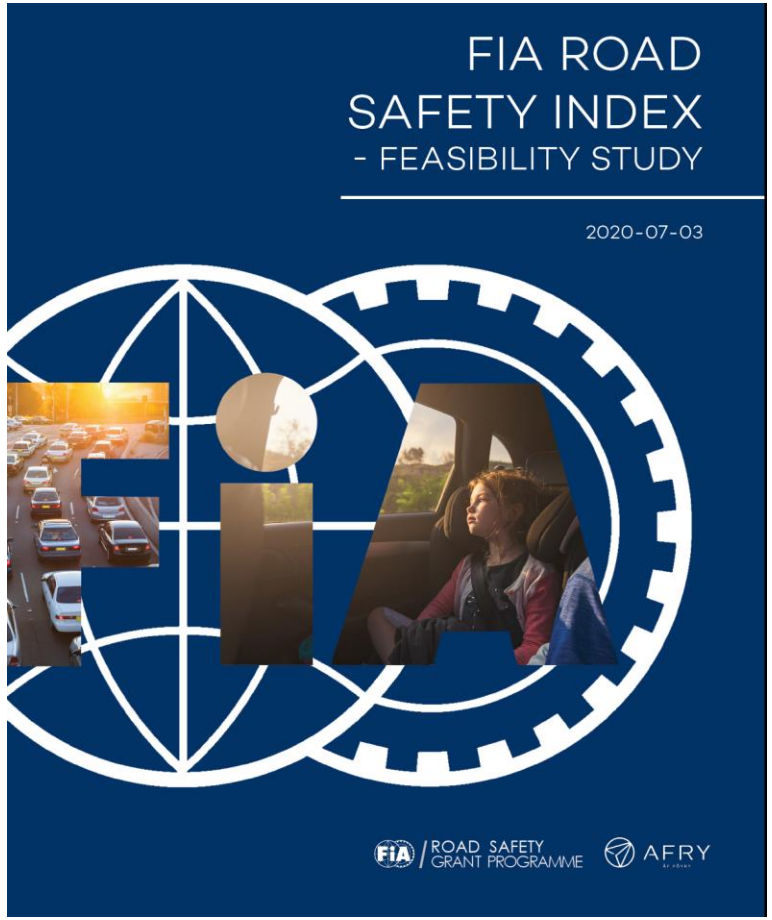
: the quality or state of being accountable

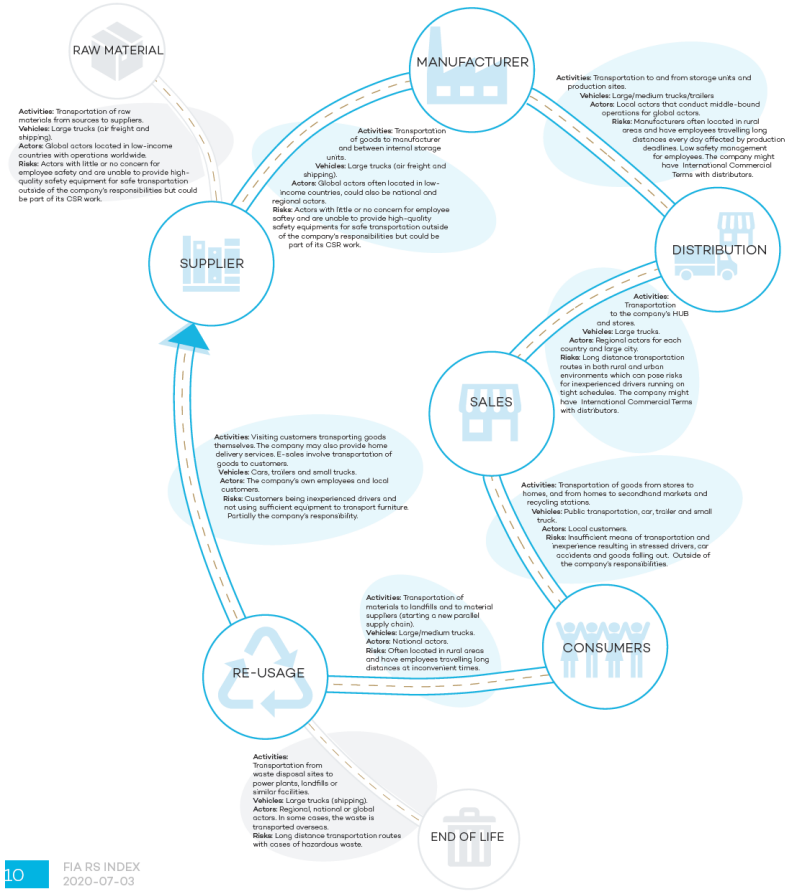
especially : an obligation or willingness to accept responsibility or to account for one's actions


6
Steps to
Accountability
1 Self-honesty
2 Value others
3 Keep records
4 Take responsibility
5 Do the right thing
6 Act promptly with care



Source: Social construction of boundaries in the context of the oficial and unofficial economices. K. Takacs Haynes & R Duane Ireland (20º4)


FIA ROAD
SAFETY INDEX
- FEASIBILITY STUDY
2020-07-03
FIA / ROAD SAFETY GRANT PROGRAMME
AFRY


RAW MATERIAL
Activities: Transportation of raw materials from sources to suppliers.
Vehicles: Large trucks (air freight and shipping).
Actors: Global actors located in low-income countries with operations worldwide.
Risks: Actors with little or no concern for employee safety and are unable to provide high-quality safety equipment for safe transportation outside of the company's responsibilities but could be part of its CSR work.
MANUFACTURER
Activities: Transportation of goods to manufacturer and between internal storage units.
Vehicles: Large trucks (air freight and shipping).
Actors: Global actors often located in low-income countries, could also be national and regional actors.
Risks: Actors with little or no concern for employee safety and are unable to provide high-quality safety equipments for safe transportation outside of the company's responsibilities but could be part of its CSR work.
Activities: Transportation to and from storage units and production sites.
Vehicles: Large/medium trucks/trailers
Actors: Local actors that conduct middle-bound operations for global actors.
Risks: Manufacturers often located in rural areas and have employees travelling long distances every day effected by production deadlines. Low safety management for employees. The company might have International Commercial Terms with distributors.
SUPPLIER
DISTRIBUTION
Activities: Transportation to the company's HUB and stores.
Vehicles: Large trucks.
Actors: Regional actors for each country and large city.
Risks: Long distance transportation routes in both rural and urban environments which can pose risks for inexperienced drivers running on tight schedules. The company might have International Commercial Terms with distributors.
SALES
Activities: Visiting customers transporting goods themselves. The company may also provide home delivery services. E-sales involve transportation of goods to customers.
Vehicles: Cars, trailers and small trucks.
Actors: The company's own employees and local customers.
Risks: Customers being inexperienced drivers and not using sufficient equipment to transport furniture. Partially the company's responsibility.
Activities: Transportation of goods from stores to homes, and from homes to secondhand markets and recycling stations.
Vehicles: Public transportation, car, trailer and small truck.
Actors: Local customers.
Risks: Insufficient means of transportation and inexperience resulting in stressed drivers, car accidents and goods falling out. Outside of the company's responsibilities.
CONSUMERS
Activities: Transportation of materials to landfills and to material suppliers (starting a new parallel supply chain).
Vehicles: Large/medium trucks.
Actors: National actors.
Risks: Often located in rural areas and have employees travelling long distances at inconvenient times.
RE-USAGE
Activities: Transportation from waste disposal sites to power plants, landfills or similar facilities.
Vehicles: Large trucks (shipping).
Actors: Regional, national or global actors. In some cases, the waste is transported overseas.
Risks: Long distance transportation routes with cases of hazardous waste.
END OF LIFE

	Inbound Logistics	Operations	Outbound Logistics	Marketing and Sales	Service
Vehicle Manufacturer	Require component suppliers to follow a road safety management program (e.g., ISO 39001)	Advance safe design at every opportunity including speed limiters and driver impairment detection	Require distribution carriers to follow safest routes to dealerships and that professional drivers comply with safety rules	Provide vehicles with at least the UN-recommended 8 minimum safety standards for every global market	Provide training on use of safety devices and free safety check-ups for first and subsequent owners
Clothing Producer	Require textile and garment assembly firms to provide safe transportation to and from the factory for workers.	Set expectations and monitor safety performance by contracted trucking operations	Contract only with freight carriers that use an effective safety management program	Promote active and safe mobility with clothing design and in advertising	Design bicycle helmets and offer at reduced cost to clothing customers
Local Government Authority	Require procured services to act safely, use safe vehicles, and have a system for safety management	Require employees to choose the safest travel options and practice safe behaviors while traveling on duty	Ensure that shipping is performed by services that comply with safety requirements	Publish safety performance and results openly	Advise citizens on safe travel options, such as safe routes to school.
Insurance Company	Require facilities, advertising or other service providers to follow a road safety management program	Purchase only vehicles with highest NCAP ratings for corporate fleet	Reduce unnecessary travel with electronic communications	Reward safe driving by insured using voluntary speed monitoring systems	As part of basic service, provide safety devices such as bicycle helmets and child safety seats to customers
Mobility Service Provider	Ensure that navigation maps are produced with boundary conditions reflecting safety and environmental needs	Use only vehicles with the highest NCAP score and minimal CO2 and noise impact	Use geofencing to make sure delivery of services are safe and sustainable	Publish safety & environmental impact of the service	Advise citizens on safe service options, such as selection of safe routes

Suggestions for research

- How does one “undo” the blaming the victim culture? How does one transform a culture of blame/guilt into a culture of positive constructivism?
- What is the minimum number (or %) of safer vehicles in a fleet that reduces significantly deaths and serious injuries in the population of reference? (i.e., “herd” effect)
- What efforts are companies willing to invest in sustainable reporting practices? How are these changing these days? Will these ever replace “traditional” marketing strategies?

ELISABETH MUNCK AF ROSENSCHÖLD

March 31, 2021


Our
Road
Safety
Agenda...

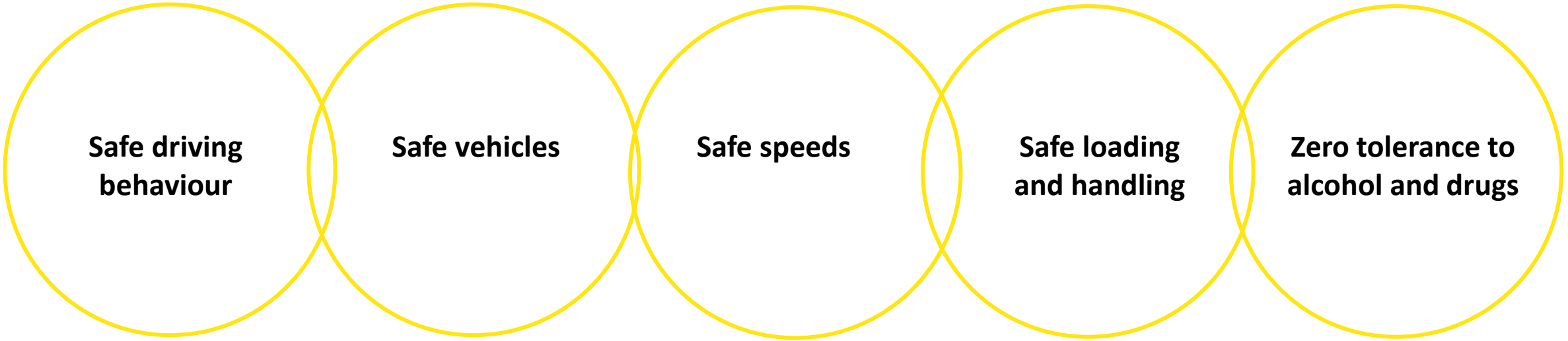

…we are on
a journey!

Designing a future for people, not traffic - together!

Safety is fundamental in IKEA Supply Chain Operations!

We recognise our shared responsibility to enhance road safety and to achieve global road safety goals as outlined in the UN Sustainable Development Goals.

What do we want to achieve?



Establishing a Global Focus Group on Road Safety

On-boarding communication from the beginning

Creating engagement internally

Engaging service providers

Where are we now?

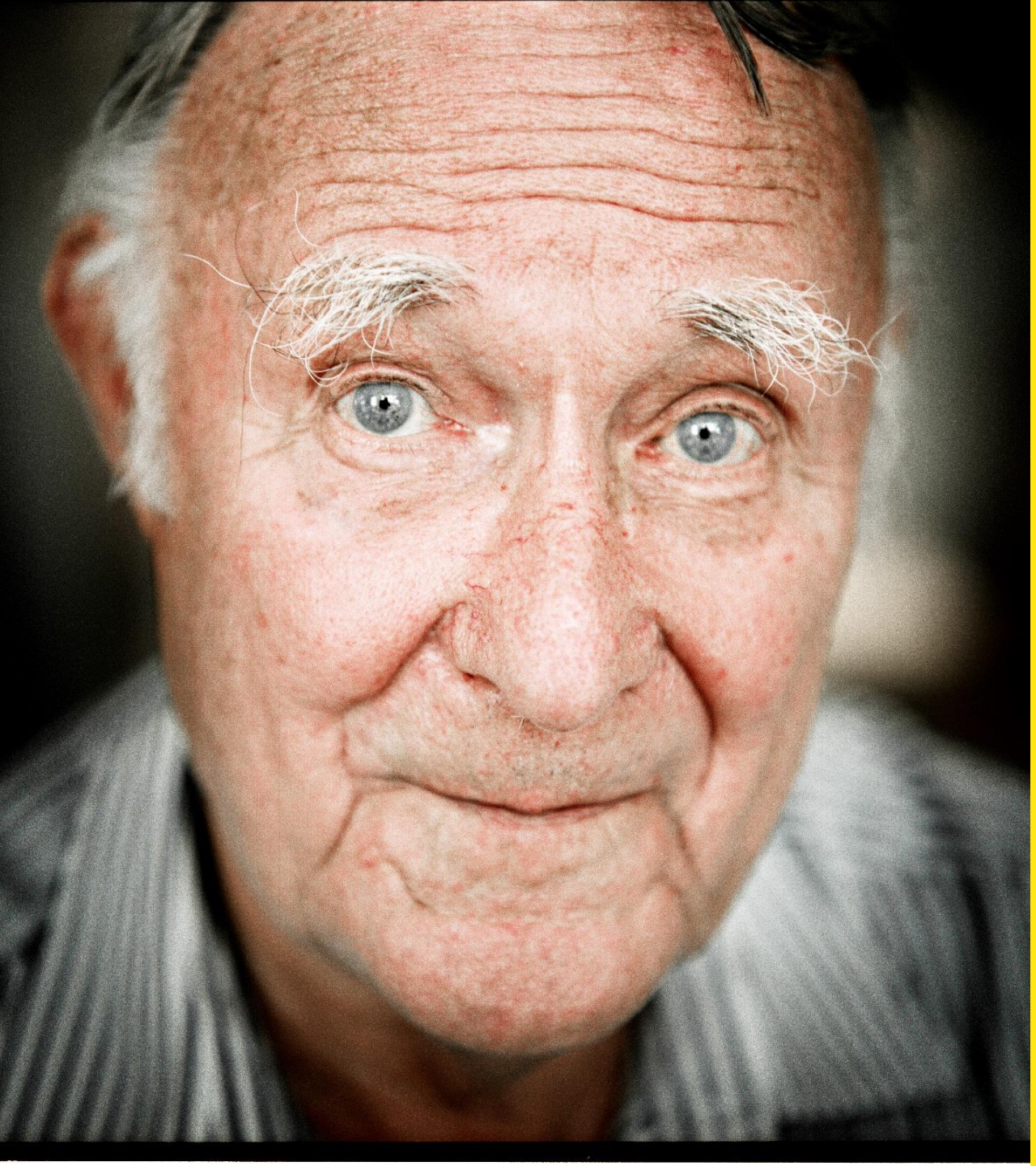
Connecting with experts

Adding to the Frame Agreement

Integrating into IWAY

Our vision

To create a better everyday life
for the many people



“It is our wonderful fate to be just at the beginning. In all areas.

We will move ahead only by constantly asking ourselves how what we are doing today can be done better tomorrow.”

The Testament of a Furniture Dealer by
Ingvar Kamprad


Let´s do it
together!

3 questions

1. **Encouraging a collaborative approach**
   How to create engagement with the right stakeholders across a value chain to enhance road safety?
2. **Measuring safety perfomance**
   What are the key performance indicators that really drive behaviour in the right direction?
3. **Reporting road safety**
   How to create and ensure a common language?

RESEARCH OPPORTUNITIES

*Based on the talks today – what **research questions** and **project needs** do you see are of interest for you to address on the SAFER research platform?*

Please log in to www.menti.com

Code: 6613 5226

SAVING LIVES BEYOND 2020: THE NEXT STEPS

Recommendations of
the Academic Expert Group

for the 3rd Global Ministerial
Conference on Road Safety

SAFER
VEHICLE AND TRAFFIC SAFETY CENTRE AT CHALMERS

INPUT FROM MENTIMETER

Based on the talks today – which research questions and project needs would be of interest to you to address through the SAFER research platform?

Mentimeter

How to objectively evaluate the road safety measures, in numbers of saved lives?

How do we formulate how safe, is safe enough?

Consumer perceptions to safety. How willing are we to pay for a safer supply chain?

How can supply chains collaborate with public bodies such as Trafikverket to achieve system impact? Or companies?

What are the 'near miss' indicators for risky behaviour in the supply chain?

What are the key performance indicators to optimise so we can measure progress?

Interesting idea about the 'herd effet' - it could be not only crtical mass of safe vehicle, but also units of safe infrastructure, share of schools with 'safe way to school'-plans, etc. At some moment there will be public pressure on non-compliers.

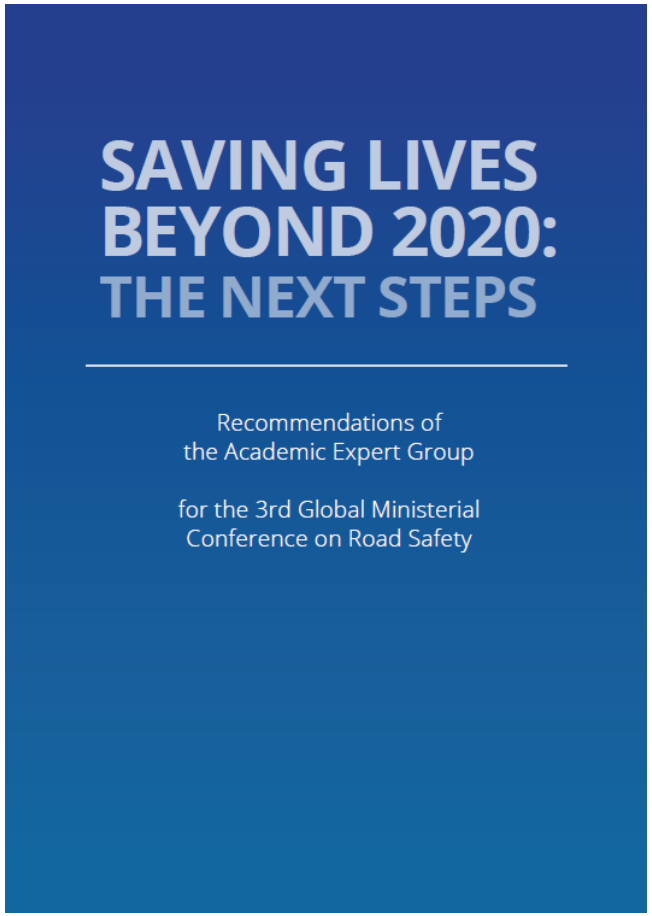
How to change the culture of blaming the individual road user.What are the most important mechanisms that drives corporate social responsibility and how can they be influenced?

WOULD YOU LIKE A BOOK?

Saving lives beyond 2020 – the next steps

Would you like to learn more about the nine recommendations and how we can address them in our research?

Please send a mail to SAFER@chalmers.se with your address and we will send one to you!



MANY THANKS for joining the dialogue today!

Borderless traffic safety research

- setting the plan towards 2030

Do you have additional ideas or want to discuss? Or just bring in a comment?
Most welcome to reach us at safer@chalmers.se or Magnus at
031-7726727, magnus.granstrom@chalmers.se

SAFER
VEHICLE AND TRAFFIC SAFETY CENTRE AT CHALMERS