



Road Safety

No deaths are acceptable



Marisela Ponce de León, IDB Road Safety Consultant



MariselaPdLV



A busy street scene in a developing country. In the foreground, a white SUV is partially visible on the left. A white bus with "UNITARIO" written on its front is in the middle ground. Two men are running across the street in the foreground, one carrying a large bag. In the background, there are more cars, a motorcycle, and a pedestrian crossing. A yellow banner at the top right contains the word "Background" with four grey arrows pointing right. The IDB logo is in the bottom right corner.

Background



Deaths over 20 years of natural disasters

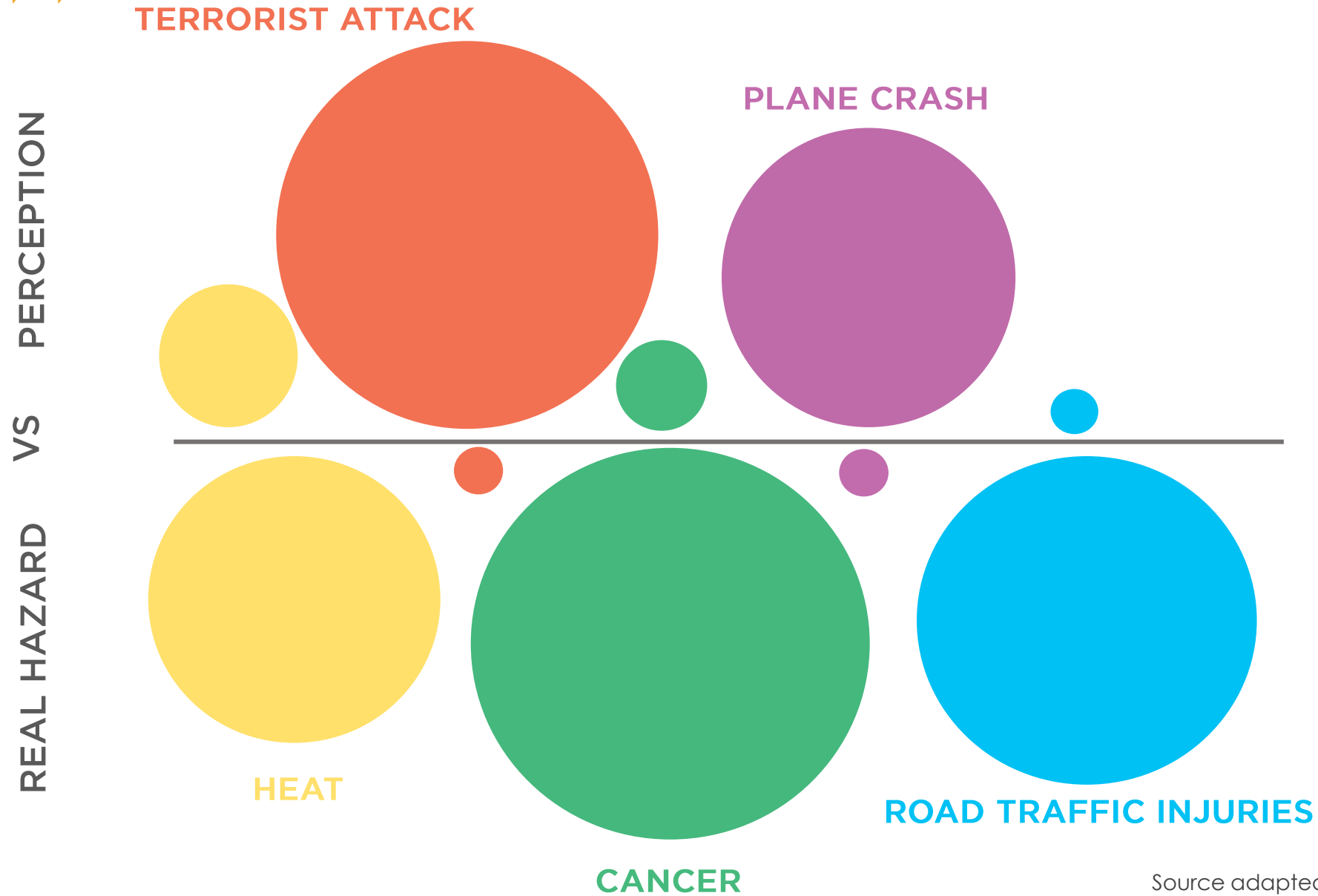


1.3
MILLION

Source: UNISDR, 2013

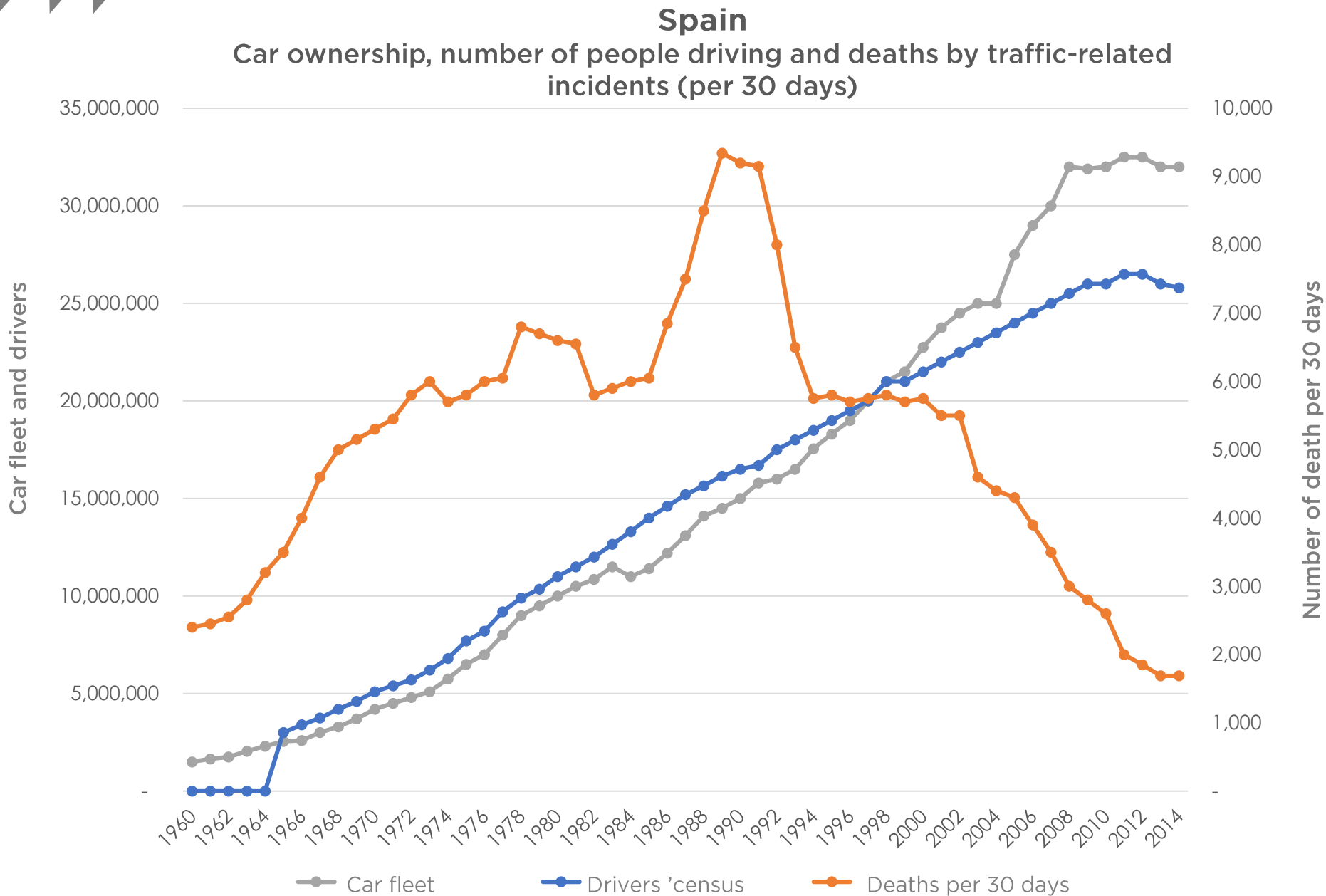


Low risk perception of traffic-related incidents



Source adapted from: Susanna Hertrich

It is a severe problem but it has solution





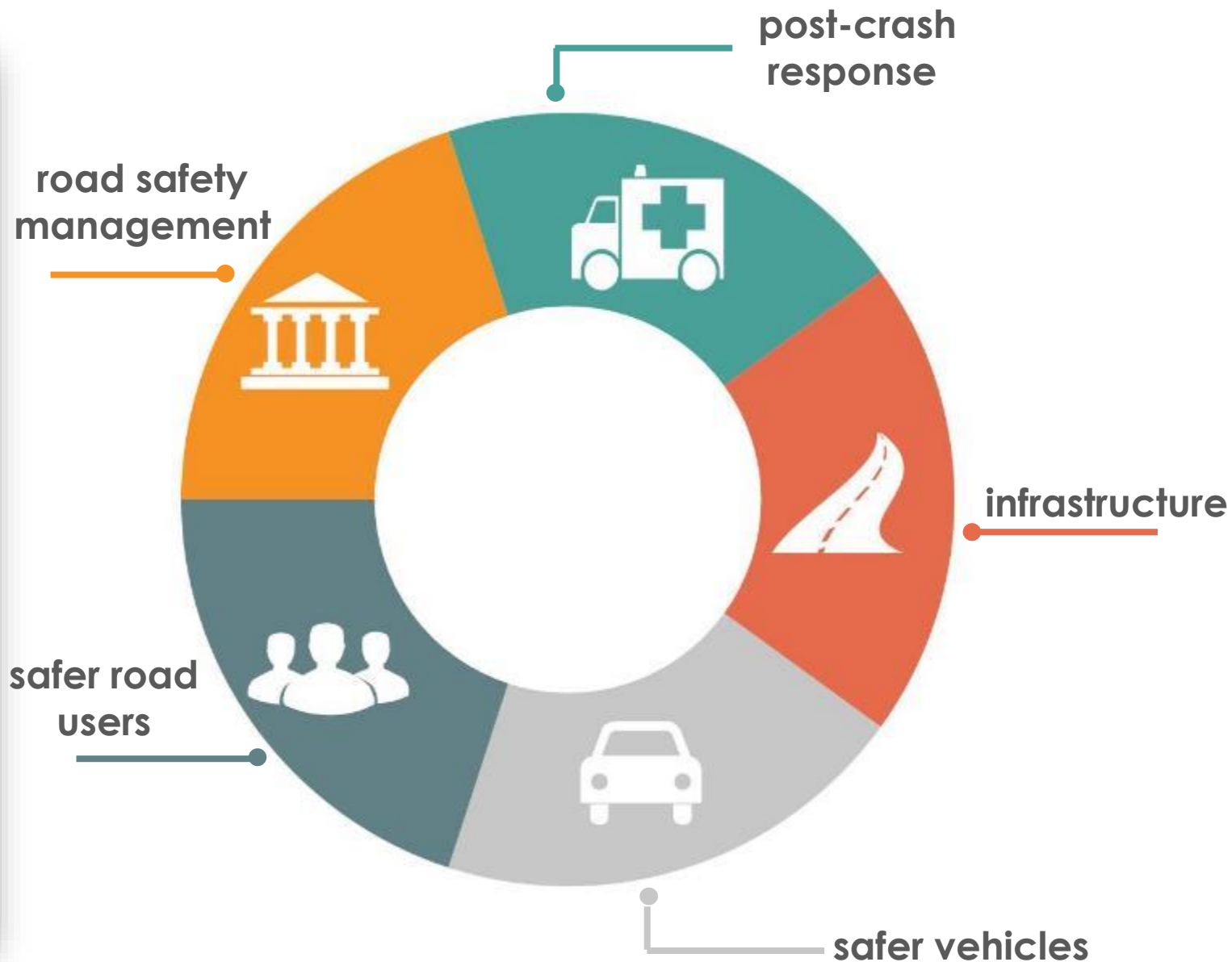
IDB Group Strategy
and action plan

USD\$12 Bn
Portfolio of transport projects

USD\$300 M
investments in road safety




IDB Group – Road Safety Strategy



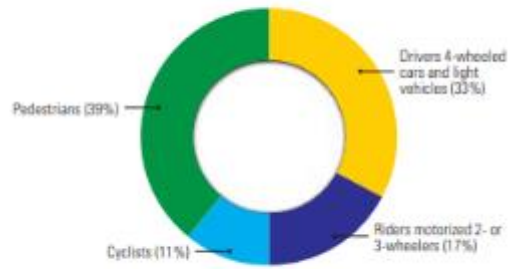


Road traffic crashes are no “accidents”



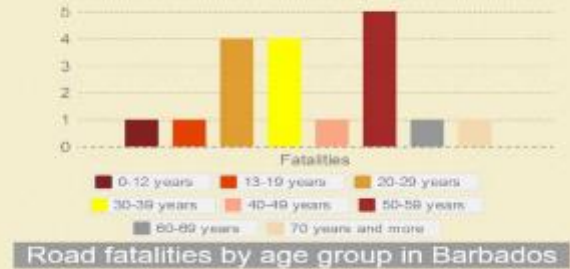
“Road traffic injuries are a **serious social and public health problem** worldwide. They should be considered as a health problem and thus be studied the same way as heart disease, cancer and cerebrovascular accidents, because **they can be prevented**, and they respond well to interventions design for that”

DEATHS BY ROAD USER CATEGORY



Source: Royal Barbados Police Force (data from 2013).

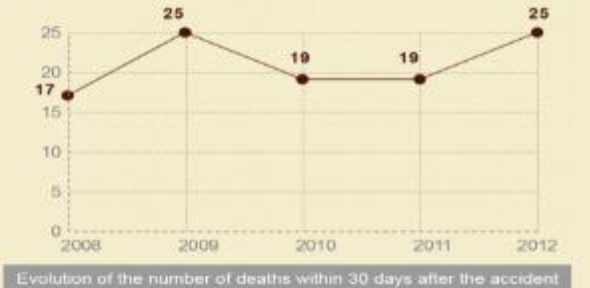
Road fatalities by age group (2011)



Road fatalities by age group in Barbados

Source: The Barbados Road Safety Association

Road fatalities



Evolution of the number of deaths within 30 days after the accident

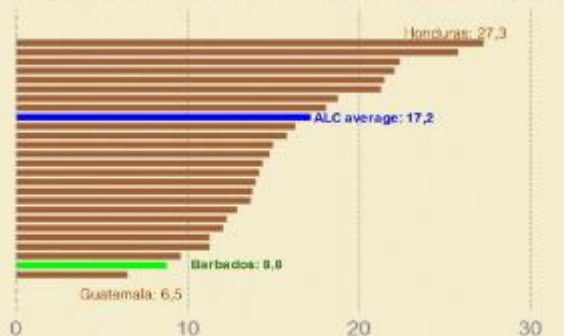
Source: Ministry of Transport and Work

TRENDS IN REPORTED ROAD TRAFFIC DEATHS

| Year | Deaths per 100 000 population |
|------|-------------------------------|
| 2010 | 6.8 |
| 2011 | 6.8 |
| 2012 | 10 |
| 2013 | 6.4 |

Source: Royal Barbados Police Force.

Comparison with other countries of the region

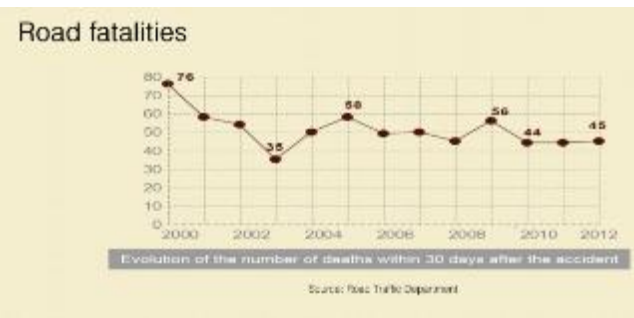


Road fatalities per 100,000 population

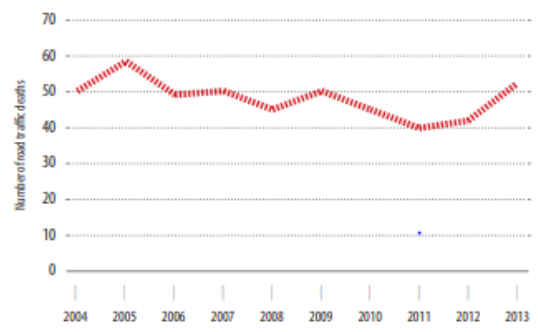


Barbados



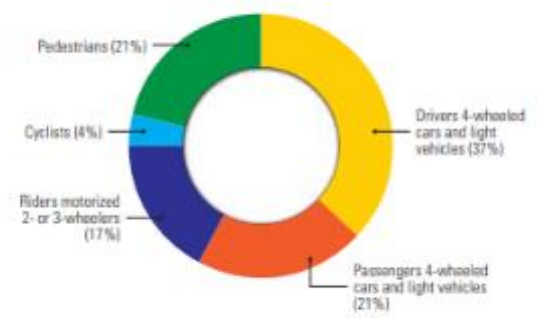


TRENDS IN REPORTED ROAD TRAFFIC DEATHS



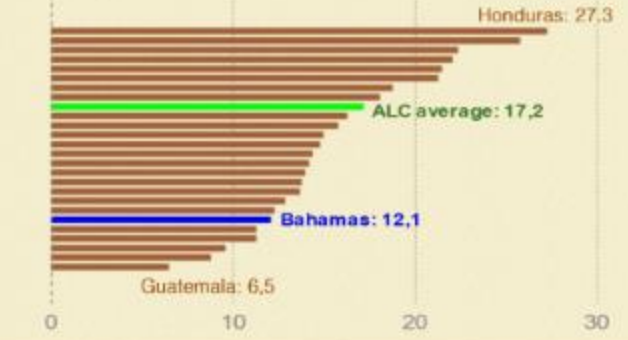
Source: Royal Bahamas Police Force.

DEATHS BY ROAD USER CATEGORY

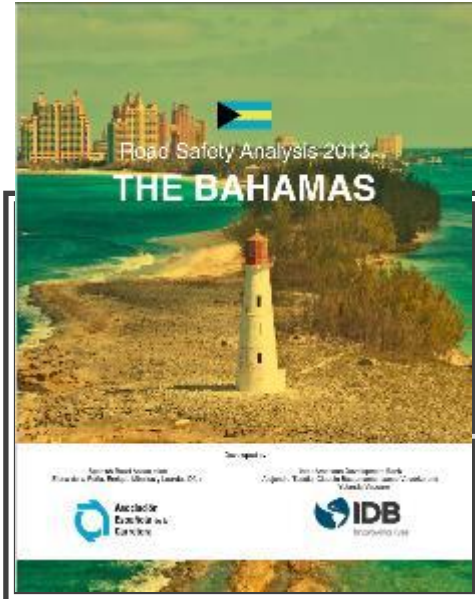


Source: Royal Bahamas Police Force (Data from 2011).

Comparative situation in the region



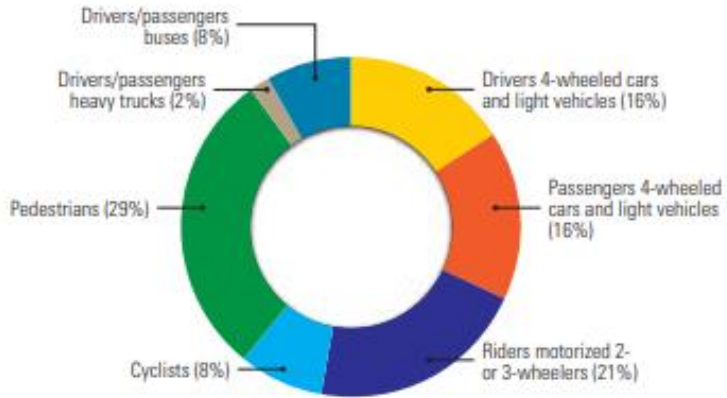
Road fatalities per 100,000 population



Bahamas

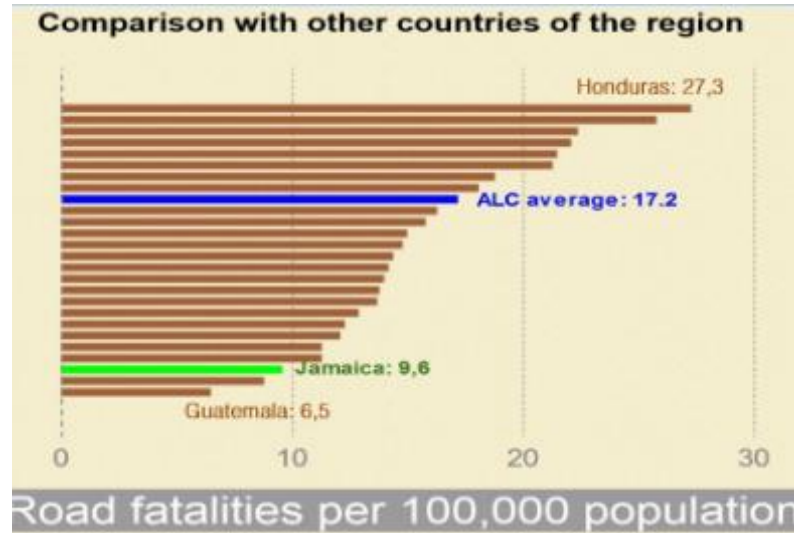


DEATHS BY ROAD USER CATEGORY

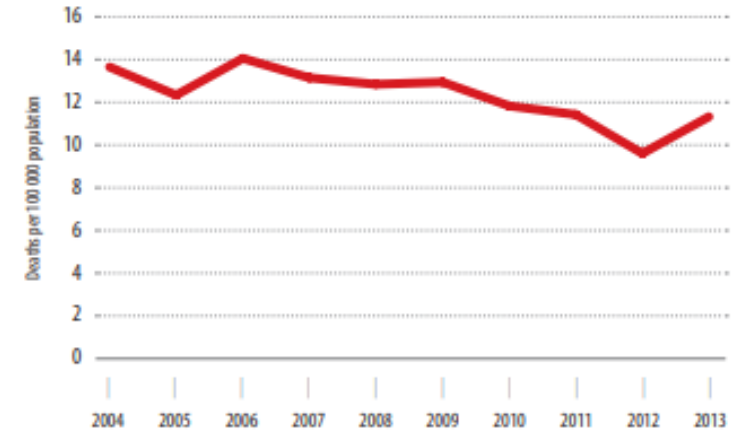


Source: Jamaica Constabulary Force (data from 2013).

Comparison with other countries of the region



TRENDS IN REPORTED ROAD TRAFFIC DEATHS



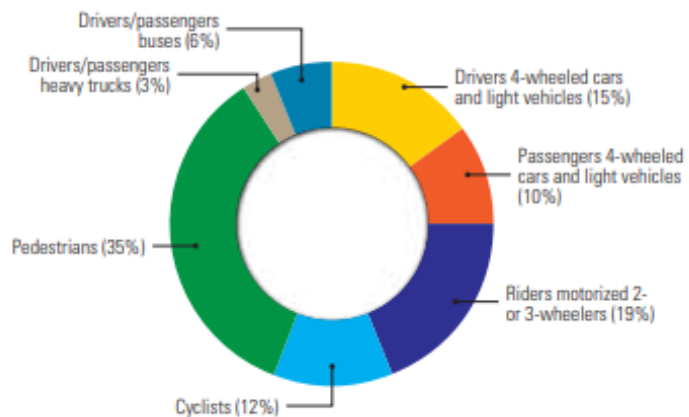
Source: Jamaica Constabulary Force.



Jamaica

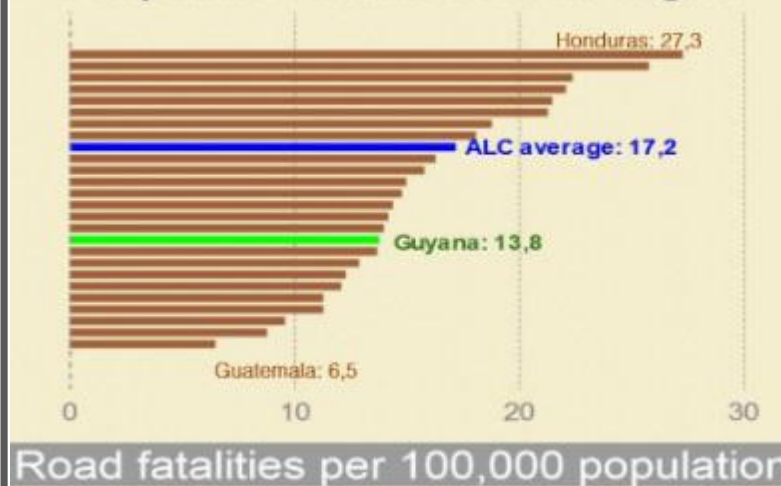


DEATHS BY ROAD USER CATEGORY



Source: Guyana Police Force (data from 2013).

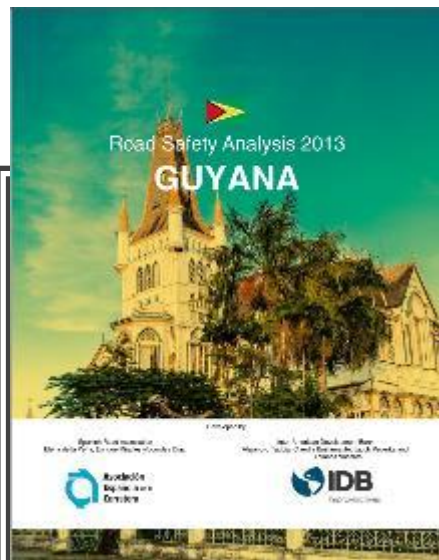
Comparative situation in the region



TRENDS IN REPORTED ROAD TRAFFIC DEATHS



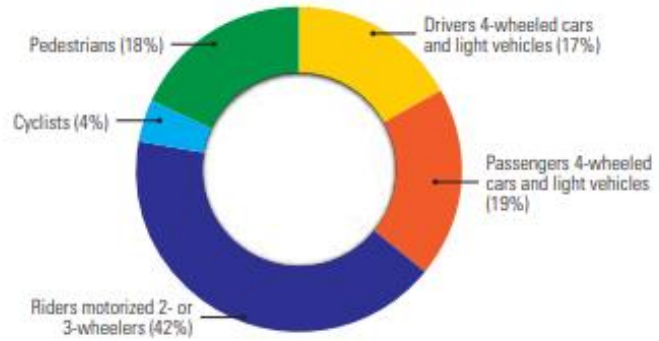
Source: Guyana Police Force.



Guyana

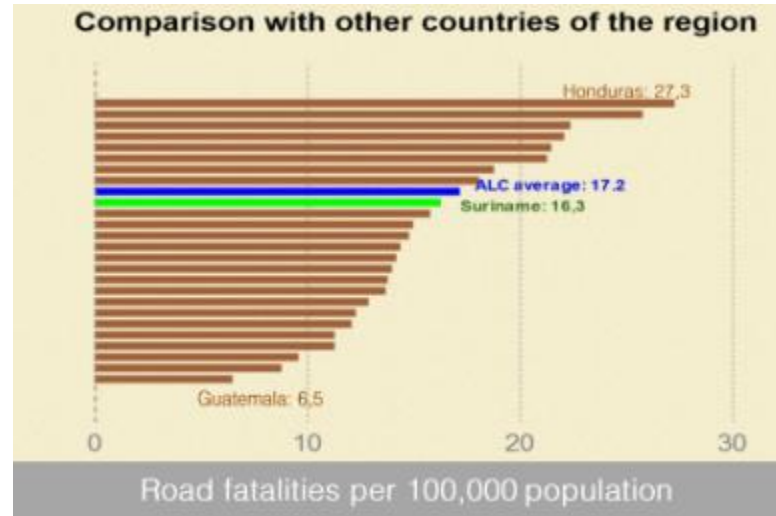


DEATHS BY ROAD USER CATEGORY

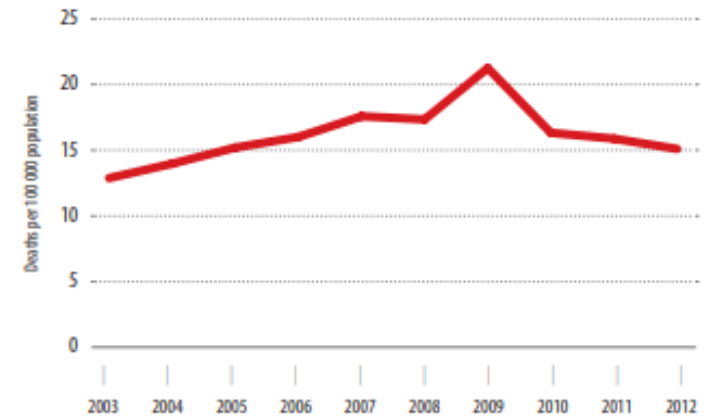


Source: Traffic Police/Ministry of Justice and Police (data from 2013).

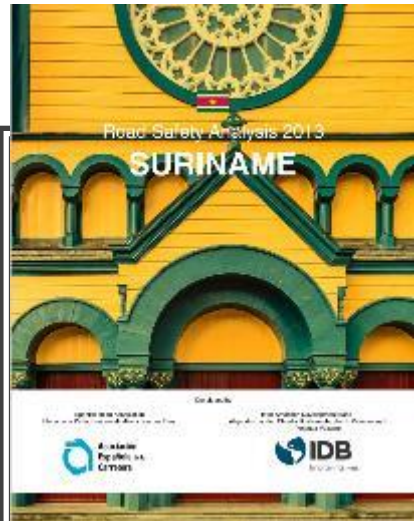
Comparison with other countries of the region



TRENDS IN REPORTED ROAD TRAFFIC DEATHS



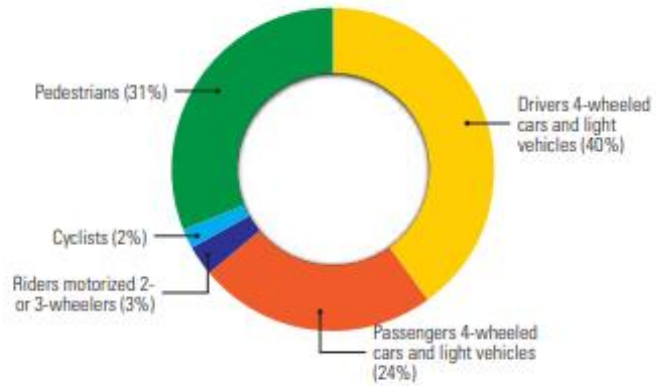
Source: Traffic Police/Ministry of Justice and Police / General Bureau of Statistics.



Suriname

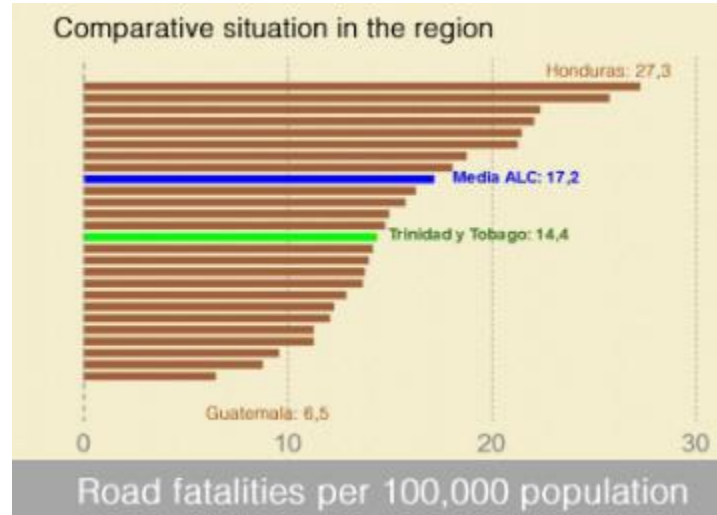


DEATHS BY ROAD USER CATEGORY

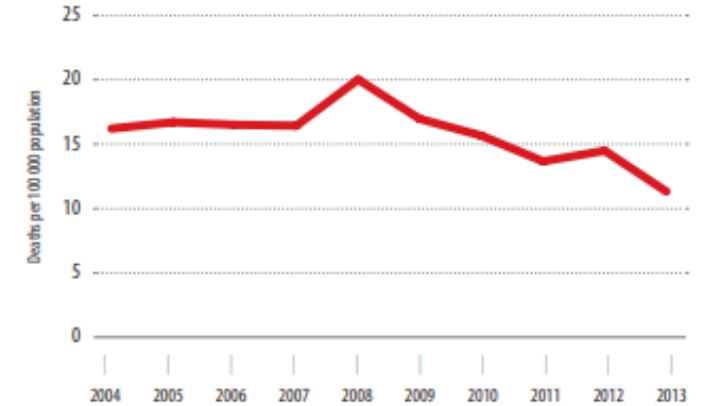


Source: Trinidad and Tobago Police Service (data from 2013).

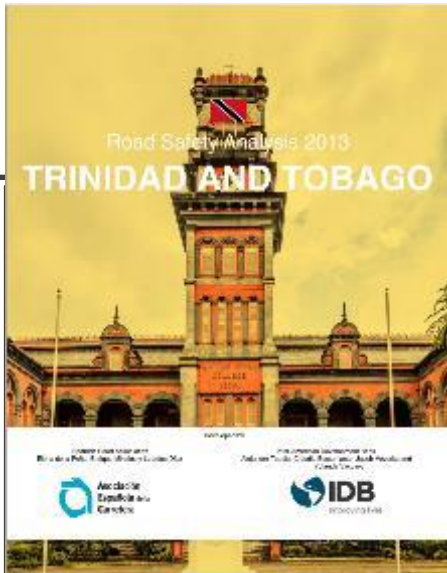
Comparative situation in the region



TRENDS IN REPORTED ROAD TRAFFIC DEATHS



Source: Trinidad and Tobago Police Service



Trinidad y Tobago



Safe System / Vision Zero

- Sweden approach to road safety.
- It is based on the simple fact that **we are vulnerable humans and make mistakes.**
- The **road system** needs to keep moving, but it must also be **designed to protect us at every step.**



Traditional approach

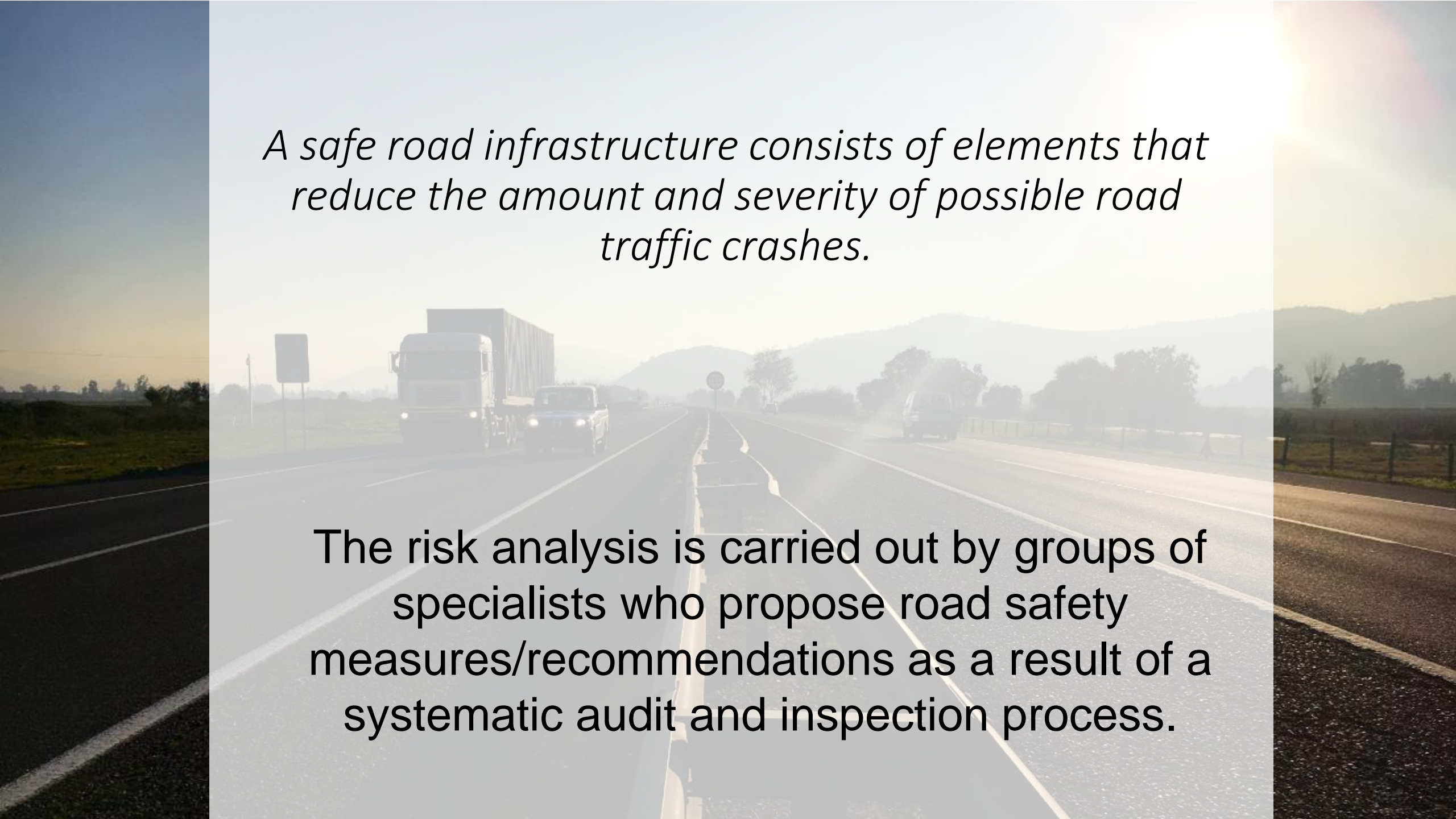
Focus on accidents
Perfect human behavior
Individual responsibility
Industry must be forced
Saving lives is expensive

Vision Zero

Focus on fatalities and serious injuries
Integrate human error into the design
Shared responsibility System-design
Industry can be stimulated
Saving lives is not expensive

Safe Road Infrastrucure



A photograph of a two-lane road with a white dashed center line. A large semi-truck is driving towards the viewer in the left lane, and a smaller car is in the right lane. The background shows rolling hills and mountains under a clear sky. The image is slightly faded to allow text to be overlaid.

A safe road infrastructure consists of elements that reduce the amount and severity of possible road traffic crashes.

The risk analysis is carried out by groups of specialists who propose road safety measures/recommendations as a result of a systematic audit and inspection process.

A **RSA** is a formal examination of a future route, in which the potential risk of road traffic crashes and road safety performance are reported; identifying the opportunity to improve safety for all users.

A **RSI** is a systematic review of an existing road or urban street, in order to identify potential hazards for different users and propose corrective measures.





Five principles of Sustainable Safety

1.Functionality of streets /roads

2.Homogeneity of the masses and/or speed and direction

3.Predictability of the road course and user behaviour through a recognizable road design

4.Awareness of the state of the road by the user

5.Roads that forgive in case of user error

RSA and RSI Diagnosis and Guides

Best practices

Practical tools

Terms of References

Support in design and implementation



Technical guide for the application of Road Safety **audits**

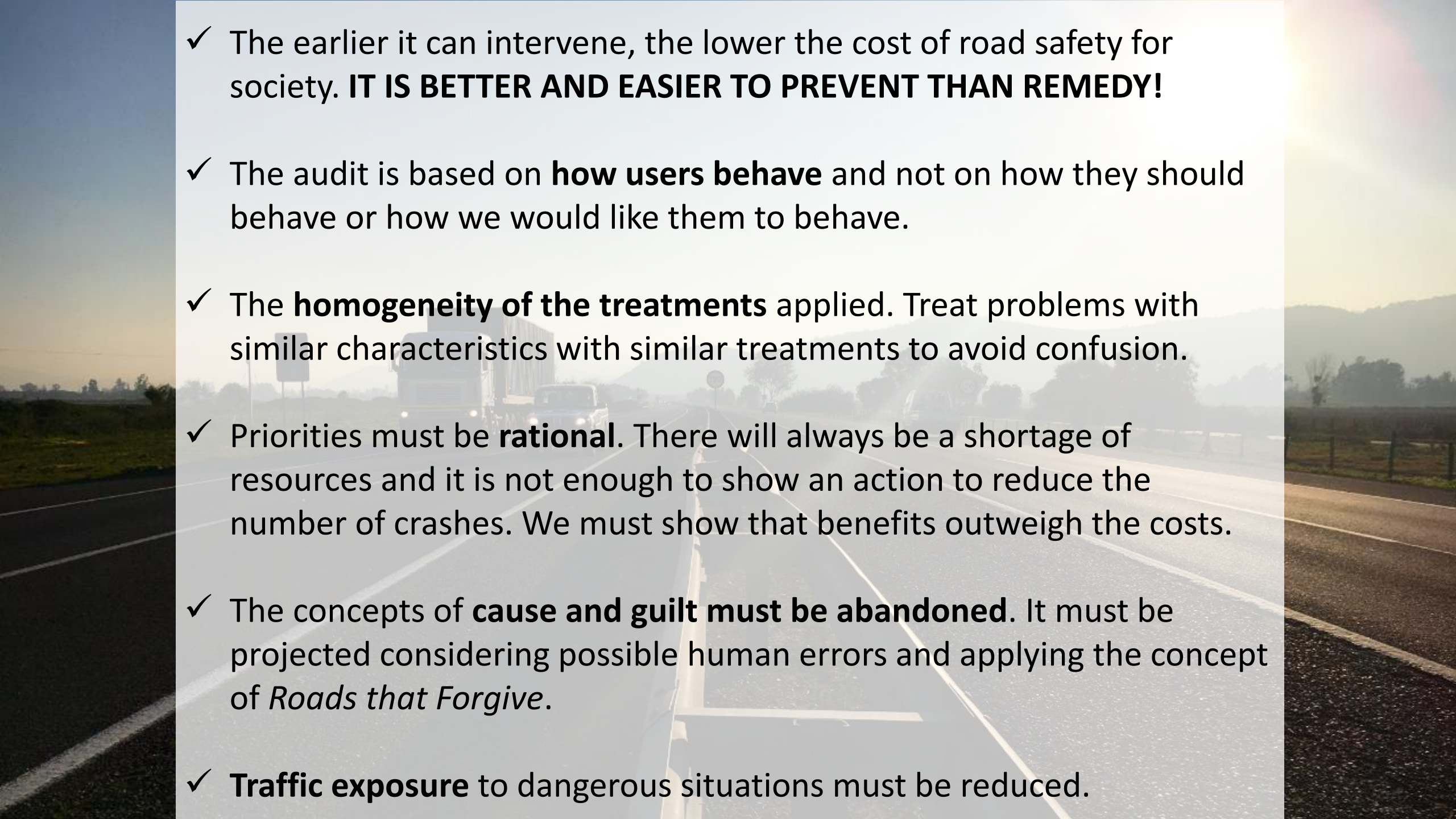
- Developed from extensive international experience and advances in LAC.
- Contains detailed information on the basic principles, the application process, the profiles and obligations of those responsible for RSA.

Target Group

- The road safety audit teams and authorities in competent entities
- Professionals and technicians (planning, design, construction and operation of urban roads and highways).

RSA Principles

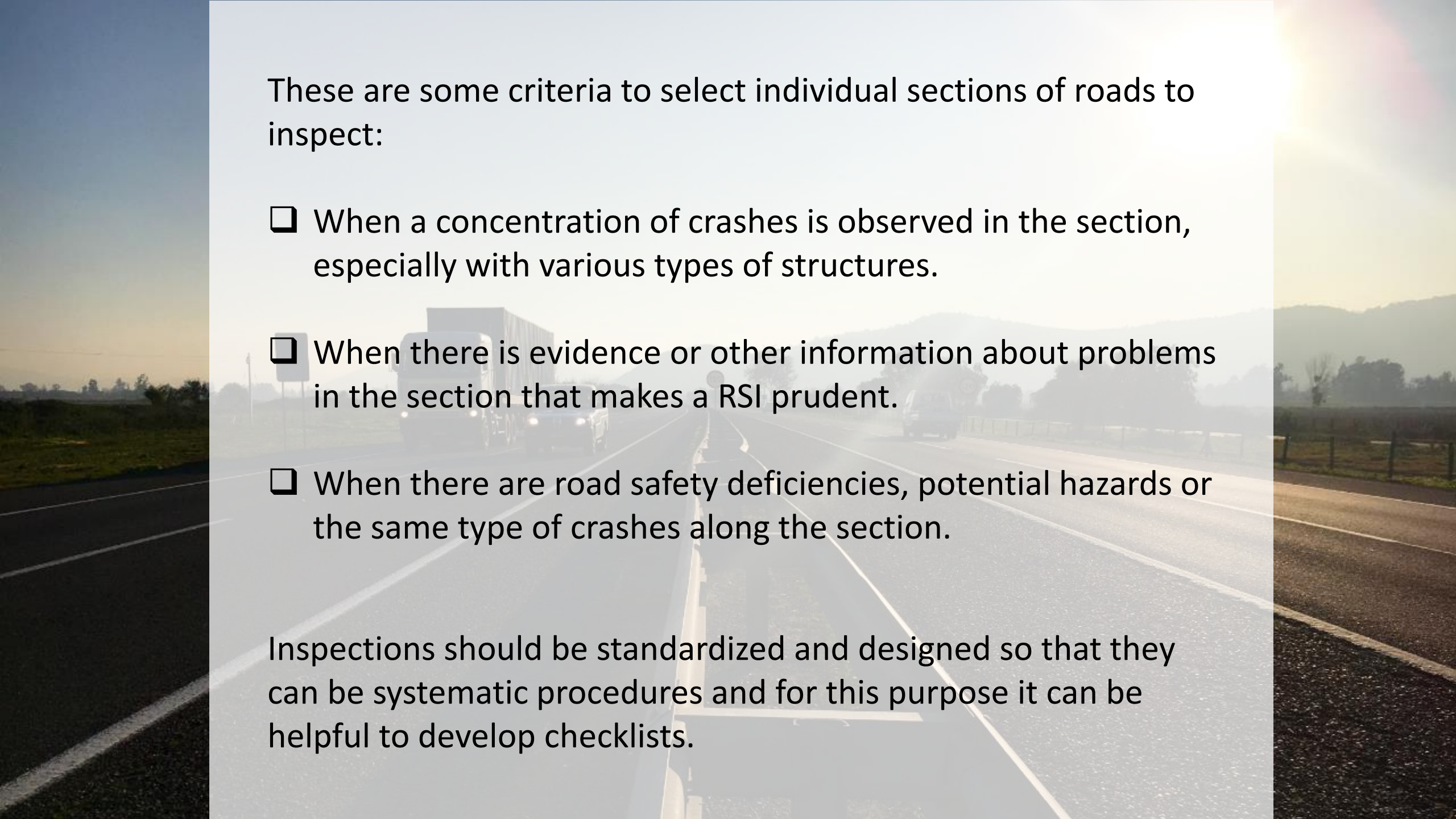
- ✓ **It is up to the project developer to define the measures that he accepts to implement.**
- ✓ **The RSA do not replace the designer responsibility.**
- ✓ **The RSA must take into account all users of a road project.**

- 
- ✓ The earlier it can intervene, the lower the cost of road safety for society. **IT IS BETTER AND EASIER TO PREVENT THAN REMEDY!**
 - ✓ The audit is based on **how users behave** and not on how they should behave or how we would like them to behave.
 - ✓ The **homogeneity of the treatments** applied. Treat problems with similar characteristics with similar treatments to avoid confusion.
 - ✓ Priorities must be **rational**. There will always be a shortage of resources and it is not enough to show an action to reduce the number of crashes. We must show that benefits outweigh the costs.
 - ✓ The concepts of **cause and guilt must be abandoned**. It must be projected considering possible human errors and applying the concept of *Roads that Forgive*.
 - ✓ **Traffic exposure** to dangerous situations must be reduced.

The background of the slide is a photograph of a road at sunset. A semi-truck is visible in the distance on the road. The sky is a mix of orange, yellow, and blue, indicating the sun is low on the horizon. The road has white lane markings and a guardrail on the right side.

Technical guide for the application of Road Safety **inspections**

The Road Safety Inspection - RSI is a proactive tool developed through a systematic and regular review process on the site, of a section or of a road, by a trained team, expert in road safety and independent, in order to identify dangerous aspects, or deficiencies likely to trigger a road traffic crash, propose treatment measures and monitor their implementation.



These are some criteria to select individual sections of roads to inspect:

- When a concentration of crashes is observed in the section, especially with various types of structures.
- When there is evidence or other information about problems in the section that makes a RSI prudent.
- When there are road safety deficiencies, potential hazards or the same type of crashes along the section.

Inspections should be standardized and designed so that they can be systematic procedures and for this purpose it can be helpful to develop checklists.

www.menti.com

Code to vote: **395950**



The World's Deadliest Animals

Number of people killed by animals, 2015

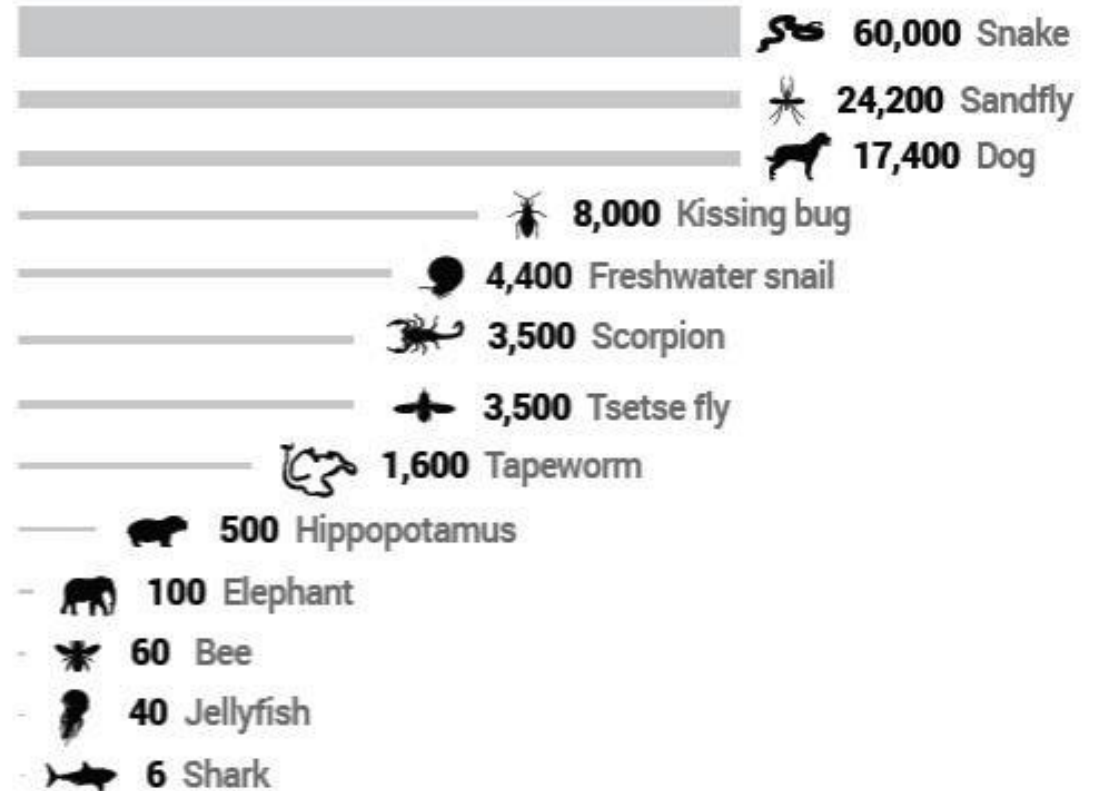
gates
notes



830,000
Mosquito



580,000
Human



Sources: IHME, WHO, CrocBITE, FAO, Norwegian Institute for Nature Research, International Shark Attack File, National Geographic, PBS, National Science Foundation, CDC, WWF, *Wilderness & Environmental Medicine*, *Nature*, French Institute of Research for Development. All calculations have wide error margins.

space required to transport 60 people



Which kind of infrastructure do you prefer?



0:05 / 3:12



YouTube



Safe Routes to School

- Educational toolkit to promote safer routes to schools.
- Online platform accessible to LAC countries.

Caminosseguros.iadb.org



1 Contextualization



Factors to considerer:

- Geographic diversity
- demographic
- Economic
- Social
- Politics
- Cultural

The "**copy-paste**" in solutions that serve in another location without considering these elements, can result in **poor results**

2 Key stakeholders and alliances

We commonly find the following involved:

School community (children, parents and teachers)

Surrounding community

Transit police

Planning agencies

Organized civil society (associations and organizations)

Private sector (sellers or businesses)

The projects in which more actors are involved with commitment are usually the most successful. A united community is vital!

3 Identifying the problematic



- With the support of the planning agencies and the traffic police, it is necessary to identify the points around the school that concentrate the highest frequency and severity where children are involved.
- In what time slots are the incidents concentrated?
- Which users are the most vulnerable?
- What land uses does the territory have in a radius range of 500 meters around?
- What speeds are recorded in nearby roads?



ANY SIMILARITY?



4 Diagnosis of school mobility

Some of the elements present in different initiatives are:

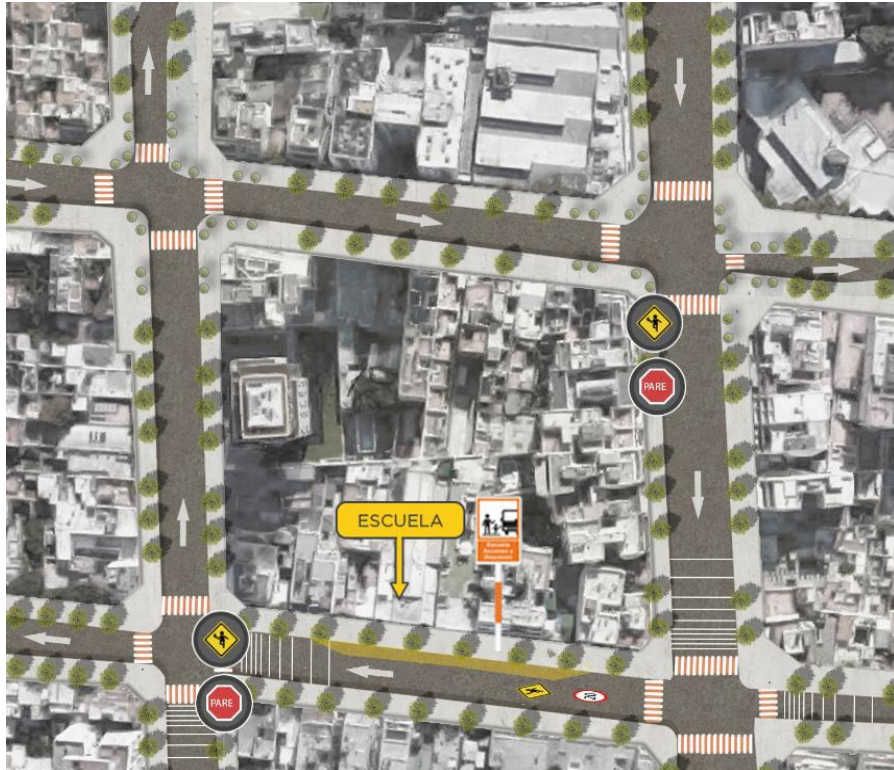
Origin-Destination Surveys

How do children get to school?

What are the most frequent routes?

School environment audits

- Sidewalk features
- School Transportation Features
- Characteristics of cycle paths
- Adjacent intersections
- Visual scope
- Traffic lights, beaconing, signage
- Barriers

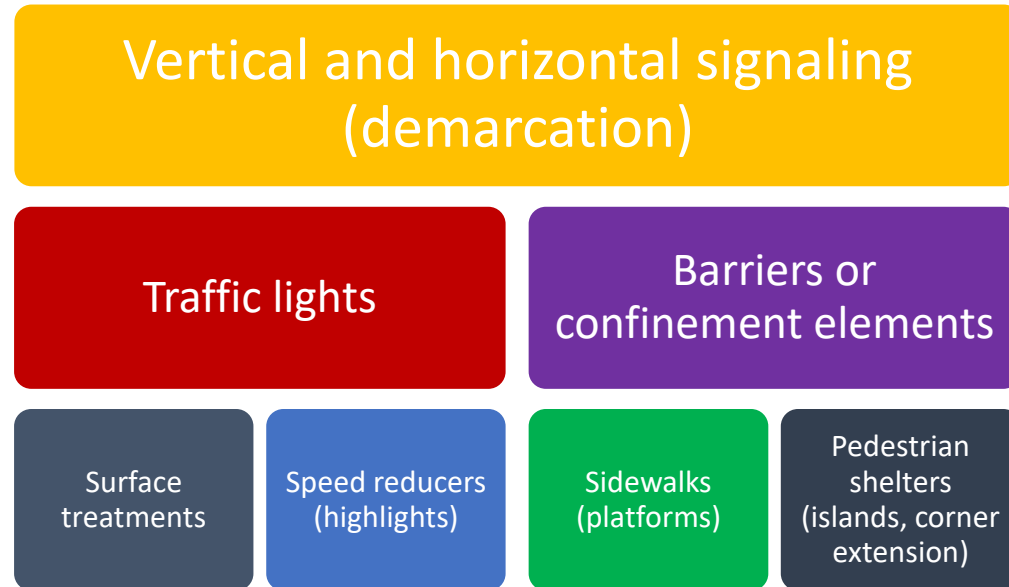


HOW DO CHILDREN ARRIVE TO SCHOOL?



5 Interventions (infrastructure)

In addition to reducing and controlling speed in school environments, the main elements that have been found in the initiatives studied are



6 Communication

Communication is essential throughout the project:

- Before
- during
- After

It is very important that the project has its own identity. This will facilitate understanding and dissemination.

caminando al
COLE



7 Financing - Funding

There are different funding sources for these projects that range from:

1. National or local grants or subsidies.
2. Multilateral Banking

Sustainability is a great challenge, so it is recommended to **integrate private initiative locally**



8 Monitoring and Evaluation

It is essential to have quantitative and qualitative measures; these measurements facilitate timely decision making as well as a clear surrender of externalities that are expected to be positive.



- Has the road risk problem decreased?
 - Is there greater empowerment of children and their environment?
 - Is there greater use of active modes (pedestrians and cyclists)?
 - Is there a higher quality of service in public transport modes?
 - Is there greater social cohesion?
 - Who are the direct or indirect beneficiaries?
 - Is there greater equity and inclusion?
-

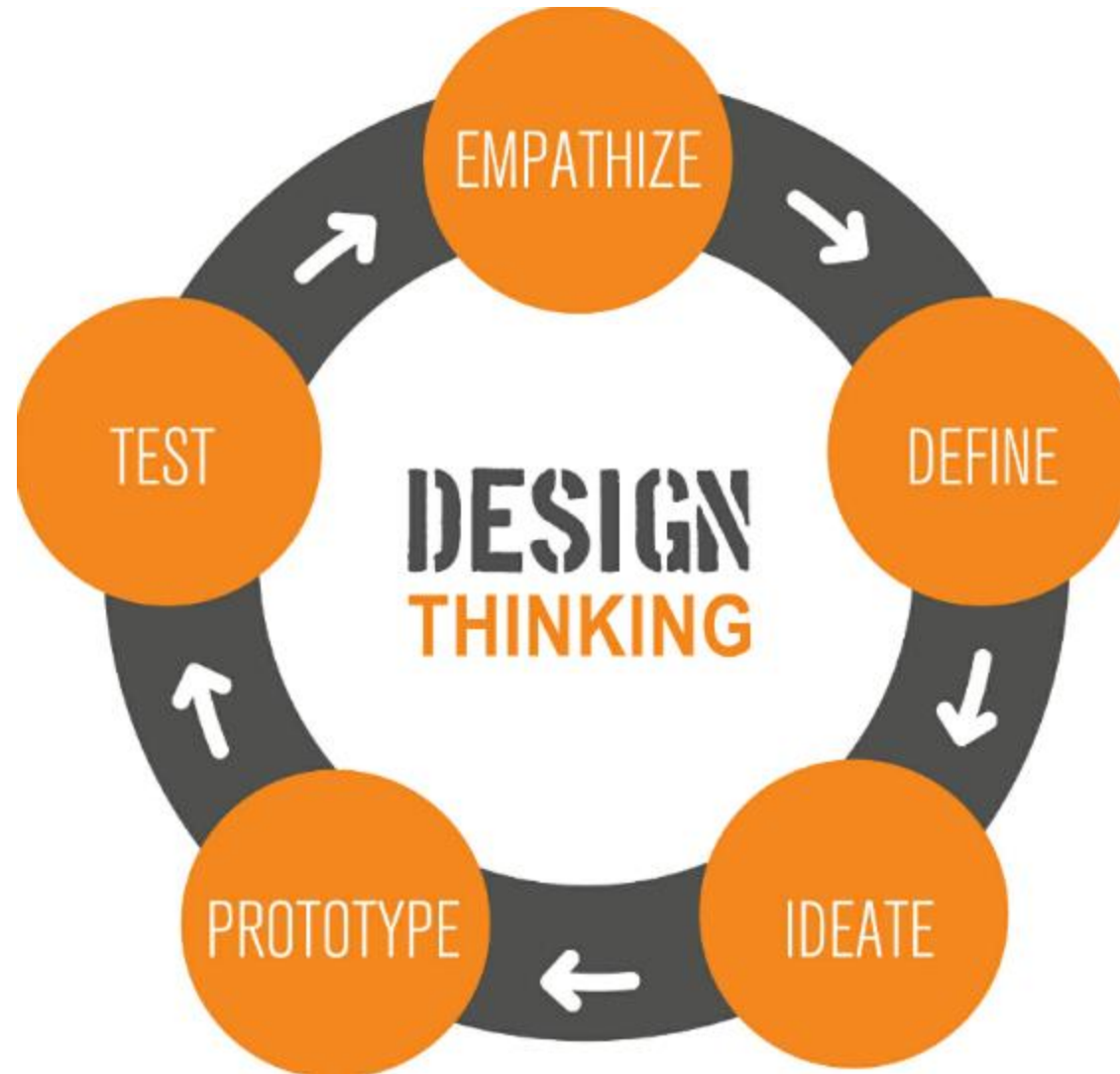


CITIES | LAB

2. TACTICAL URBANISM

CONCEPTUAL FRAMEWORK

DESIGN THINKING



EXAMPLE

TIMES SQUARE, NYC



EXAMPLE

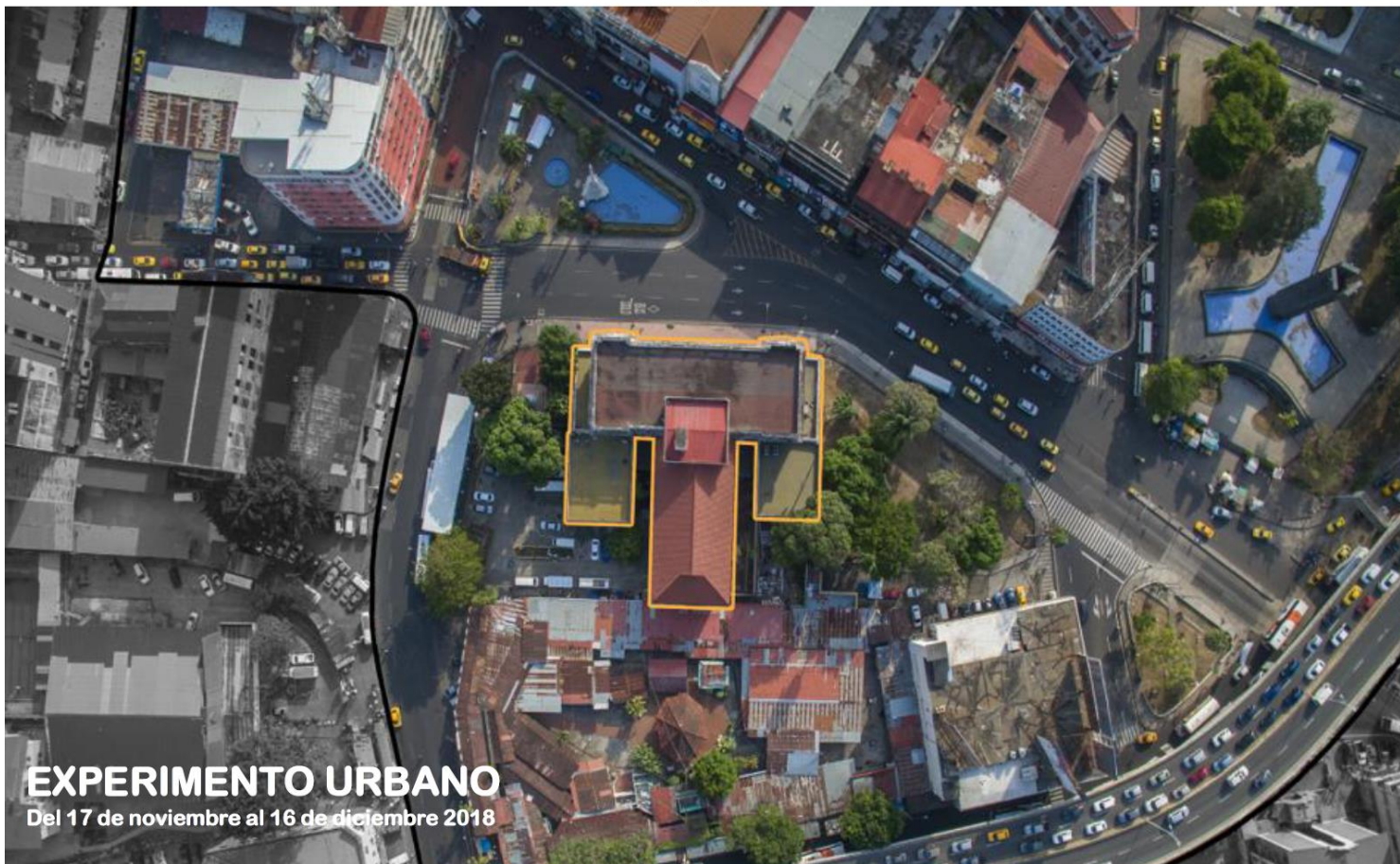
TIMES SQUARE, NYC



PILOT: PANAMA CAMINA

THE SURROUNDING AREA AS AN OPPORTUNITY

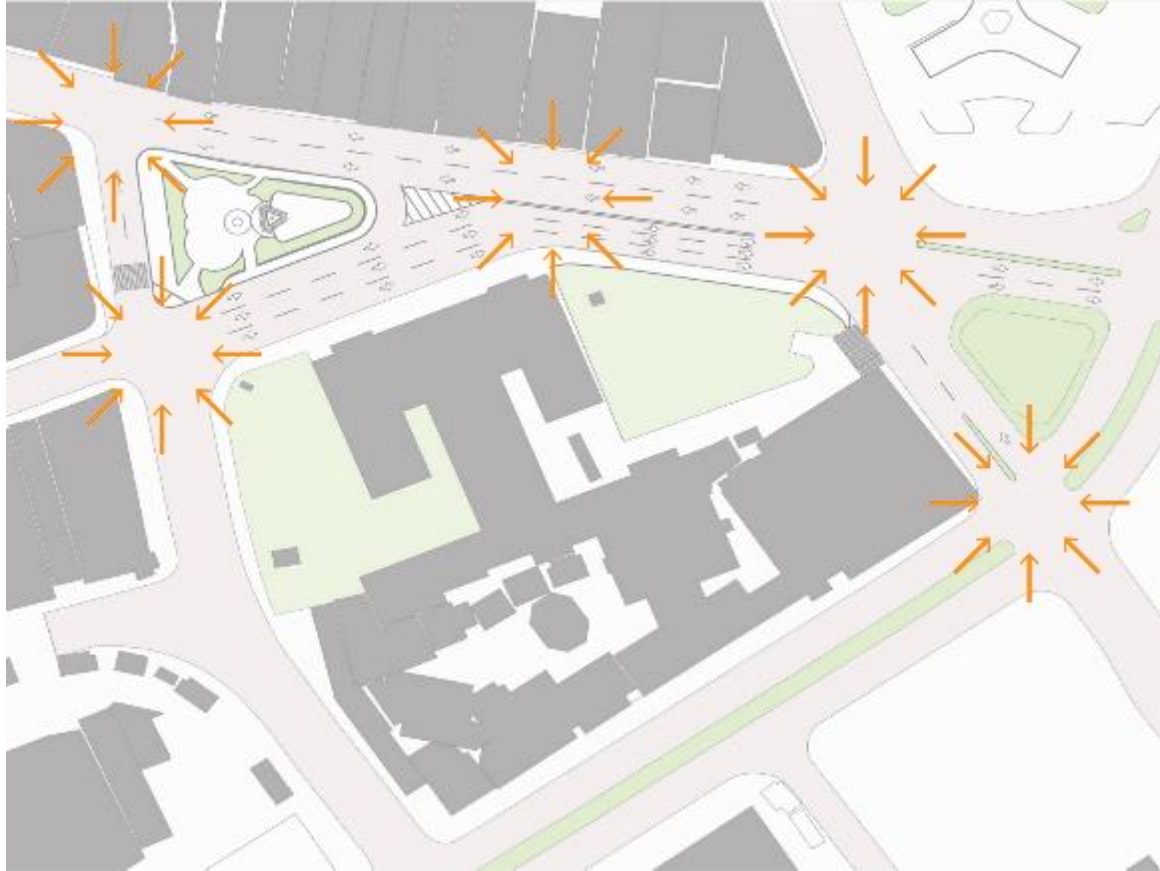
Panamá Camina: comparte la Central



SOURCE: PROPOSAL MAS ALLA DEL MARTA (EQUIPO DE PROYECTO PN-L1146)

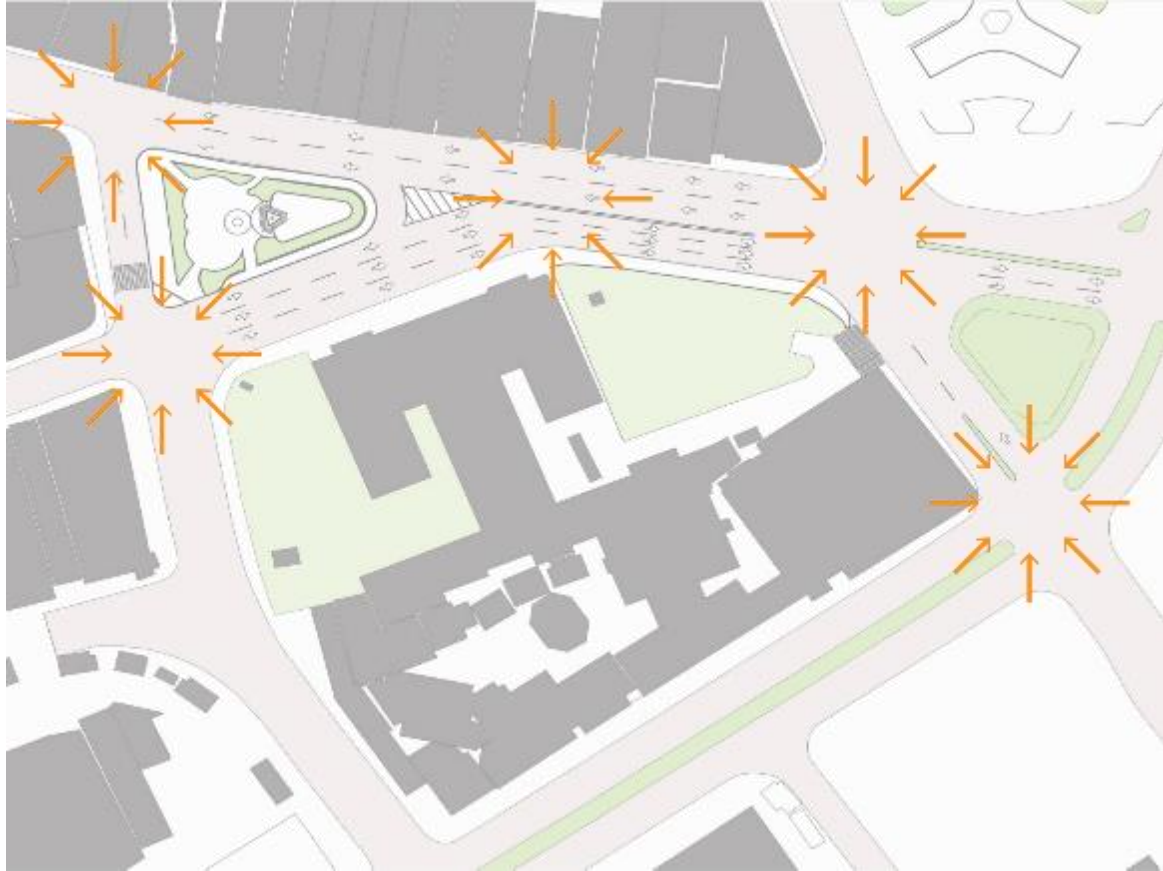
PILOT: PANAMA CAMINA

CONFLICT POINTS: PEDESTRIANS VS VEHICLES



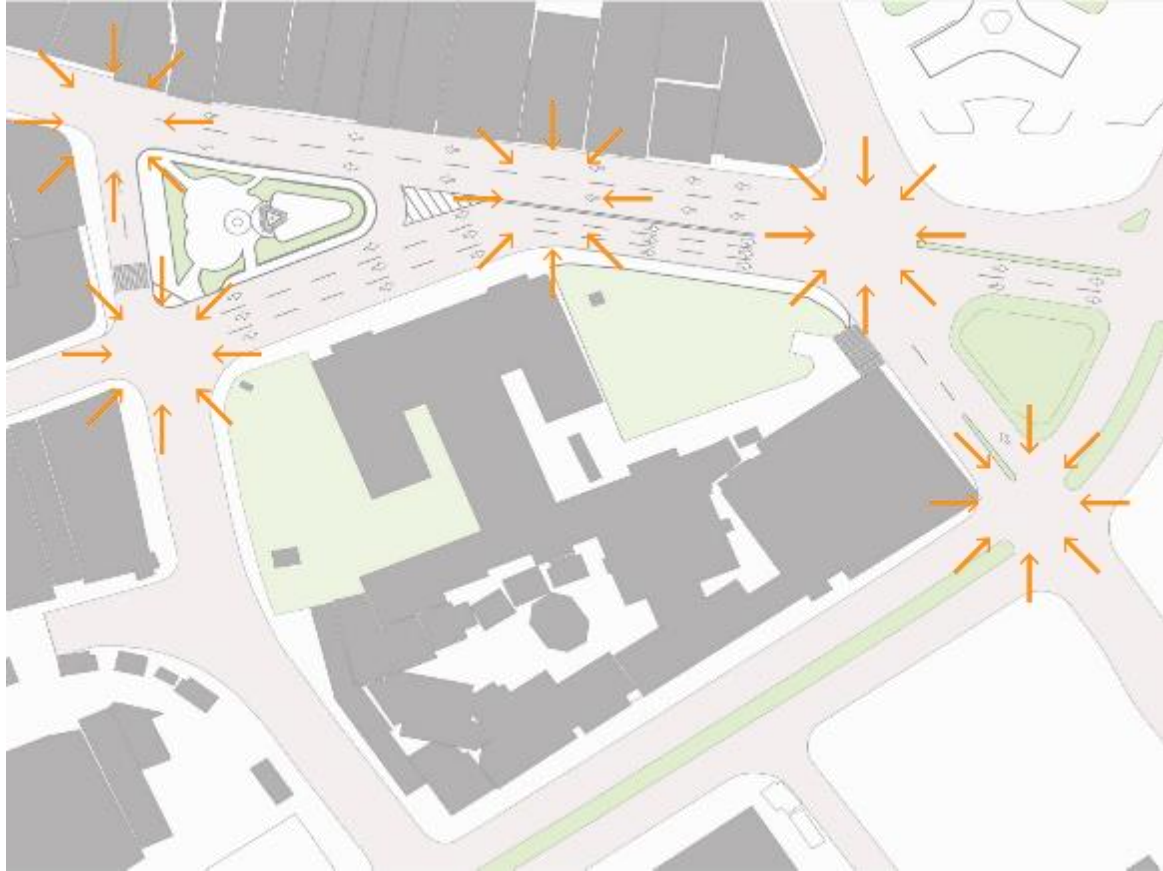
PILOT: PANAMA CAMINA

PEDESTRIANS LOOKING FOR THE SHORTEST ROUTE



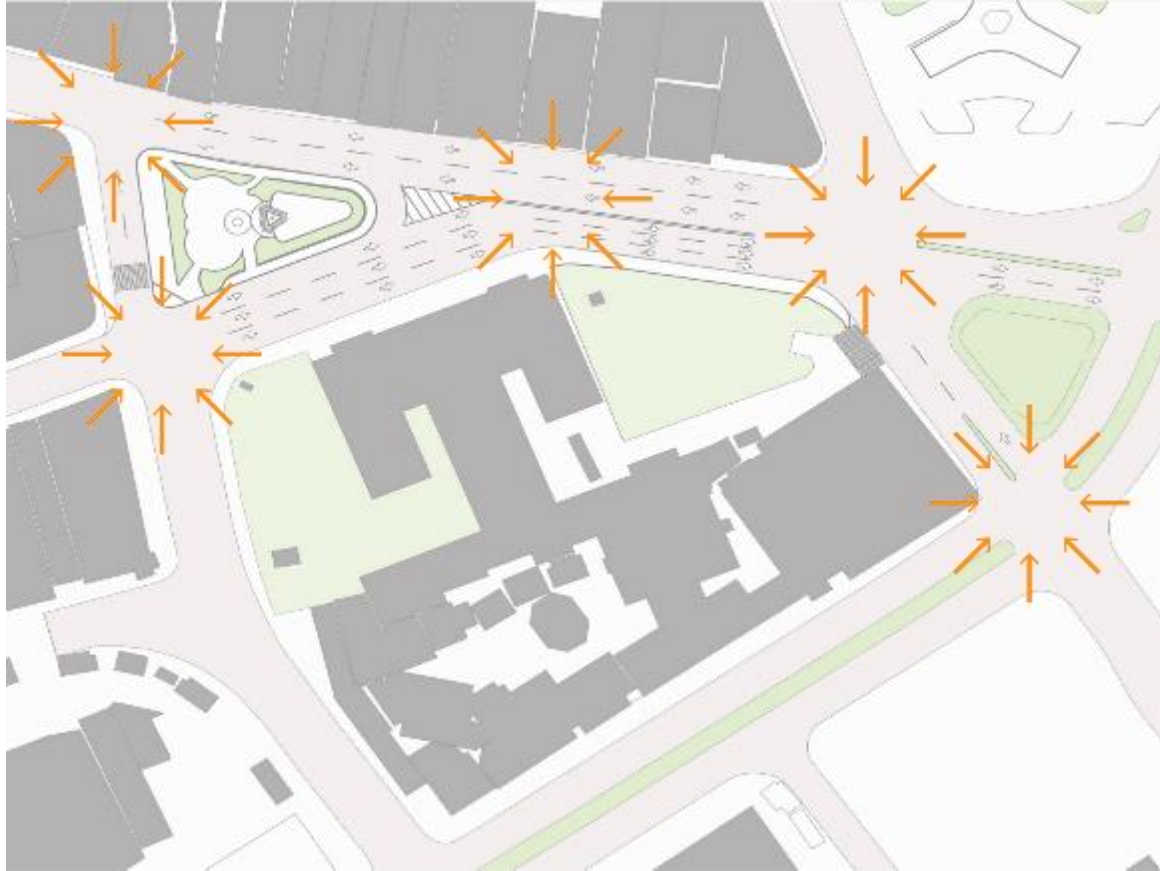
PILOT: PANAMA CAMINA

ROADS ARE WIDE AND DIFFICULT TO CROSS



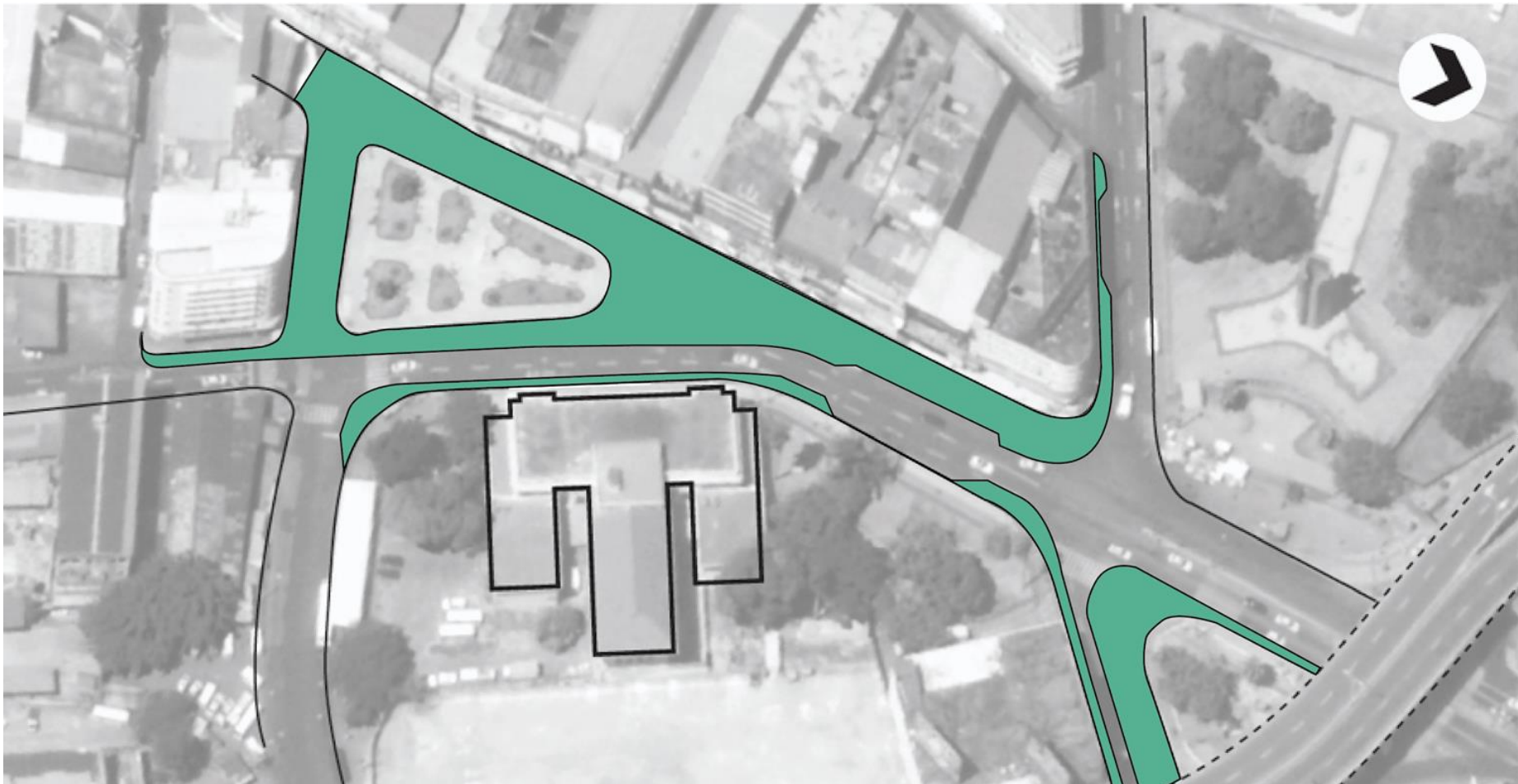
PILOT: PANAMA CAMINA

PUBLIC SPACE = ~80% FOR CARS; ~20% FOR PEDESTRIANS



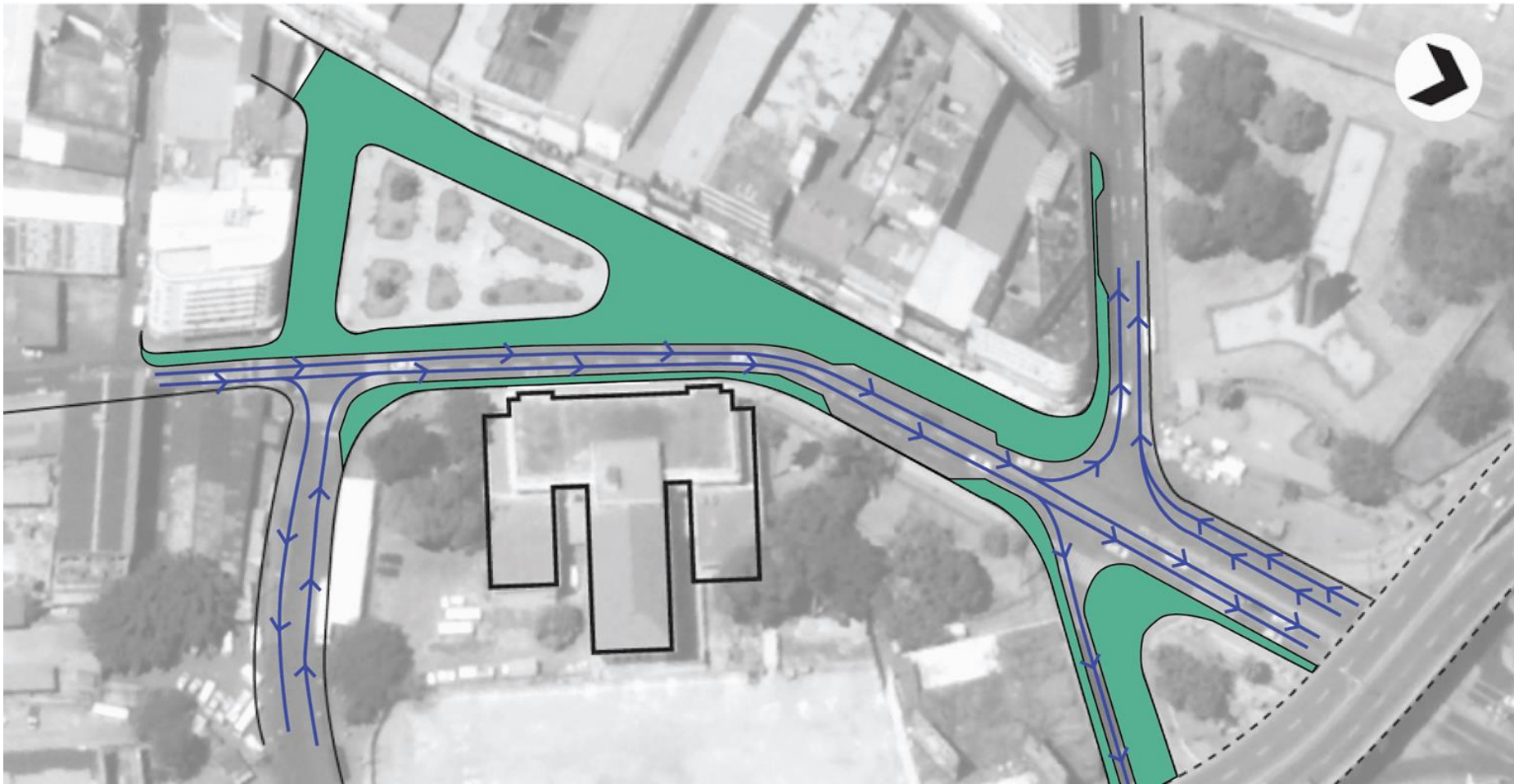
PILOT: PANAMA CAMINA

OBJECTIVE 1: INCREASE PEDESTRIAN SPACES



PILOT: PANAMA CAMINA

OBJECTIVE 2: SIMPLIFY VEHICLE CIRCULATION



PILOT: PANAMA CAMINA

OBJECTIVE 3: FACILITATE PEDESTRIAN MOVEMENT



PILOT: PANAMA CAMINA

EXPERIMENT WITH TEMPORARY PAINT



PILOT: PANAMA CAMINA

VISUAL SIGNALS MARKING CONFLICT SPOTS



PILOT: PANAMA CAMINA

SENSIBILISATION CAMPAIGN





Some innovative/creative ideas based on evidence
#PanamaCamina #ComparteLaCentral



Coming
SOON

SEGURIDAD VIAL

en América Latina y el Caribe:
de la teoría a la acción



<http://www.edx.org/school/idbx>

MOOC Modules

1. Road safety as a problem for the development of sustainable growth

2. Road safety in the world: current situation and main challenges.

3. Institutional management of road safety

4. The role of data in road safety

5. Safe infrastructure

6. Safety in the urban environment: sustainable transport

7. Our responsibility with vehicles and safe behaviors

8. Education and communication



THANK YOU!

#CaribbeanRoadSafety

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@MariselaPdLV

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blogs.iadb.org/moviliblog/