A VISION FOR ZERO: SAFE AND SUSTAINABLE SYSTEMS
An approach to traffic safety to eliminate traffic death and serious injury

EMBARQ
TRADITIONAL APPROACH TO ROAD SAFETY
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VISION ZERO IS A POLICY INNOVATION

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<th>TRADITIONAL</th>
<th>VISION ZERO</th>
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<td>What is the problem?</td>
<td>Accidents Risk</td>
<td>Fatalities &amp; Serious injuries</td>
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<td>What causes the problem?</td>
<td>Human Factors</td>
<td>Humans make mistakes &amp; Humans are fragile</td>
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<td>Responsibility?</td>
<td>Individual Road Users</td>
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<td>People’s demand for road safety</td>
<td>People don’t want safety</td>
<td>People want safety</td>
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<td>What is the appropriate goal?</td>
<td>Optimum number of fatalities &amp; serious injuries</td>
<td>Eliminate fatalities &amp; serious injuries</td>
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SAFE SYSTEM: MOST RAPID REDUCTIONS AND THE LOWEST FATALITY RATES

Analysis: WRI based on OECD Data
Data Source: https://data.oecd.org/
SAFE SYSTEMS IN THE WORLD
The human factor is always present – 365 days a year.

An effective road safety system needs to take human error – forced and unforced – into account through design of infrastructure.

94% of crashes in the US can be tied back to either human error or bad decisions, according to NHTSA.
HUMANS ARE VULNERABLE TO INJURY

The human body is vulnerable and not built to withstand impact forces above certain levels.

To build a safe road system and to reduce deaths and serious injuries, the human body’s tolerance to impact forces should be used as a guiding tool.
Fatal and serious traffic crashes are preventable and should not be acceptable.
Responsibility for road safety should be shared between the public and decision makers including policy and lawmakers, law enforcement, planners, administrators, designers and engineers, amongst other actors.
Addressing and preventing fatal and serious crashes before they occur should be a main goal of a safer road system.

- Complete Streets policies
- Street Design Guides
- Road Safety Audits and Inspections
- Network analysis
- Safe corridor and intersection programs
- Using surrogate data such as conflict analysis, speed data, etc.
ROAD CLASSIFICATION AND SPEEDS

80
Head-on
60 + 20

40
Pedestrians
10 + 30

70
Side
55 + 15

△ 40
Rear-end
△ 20 + △ 20

110
Large animals
80 + 30
HIGHWAYS/MOTORWAYS
SAFE DESIGN FOR ALL ROAD USERS

Urban design that reduces the need for vehicle travel and fosters safer vehicle speeds

Traffic calming measures that reduce vehicle speeds or allow safer crossings

Arterial corridors that ensure safer conditions for all road users

A network of connected and specially designed bicycling

Safe pedestrian facilities and access to public spaces

Safe access to mass transport corridors, stations, and stops
LAND USE AND MOBILITY PLANNING

**Atlanta, USA**
- Population (1990): 2.5 million
- Built-up area: 4,280 km²
- Traffic fatality rate: 9.7/100,000 pop.
- Mode share: Car 77%, Transit 3%, Biking 0%, Walking 1%

**Barcelona, Spain**
- Population: 2.8 million
- Built-up area: 162 km²
- Traffic fatality rate: 1.9/100,000 pop.
- Mode share: Car 20%, Transit 33%, Biking 12%, Walking 35%

Sources: Alain Bertaud (2012) Clearing the air in Atlanta: Transit and smart growth or conventional economics?
VEHICLE DESIGN, PHOTO ENFORCEMENT AND MORE.....
KEY MANAGEMENT TOOLS

SET TARGETS
Targets should be ambitious yet achievable based on historical trends and expected outcomes.

CHOOSE & APPLY INTERVENTIONS
Choose interventions based on empirical evidence.
Understand expected outcomes.

MONITOR & EVALUATE PROGRESS
Develop a robust and systematic monitoring and evaluation process to measure progress. Do not create a ‘fear to failure’ environment.