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*Safer Roads for People
and Planet*

Vision Zero infrastructure assessment and 5-star roads

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Summary

1 – How is Portugal doing?

2 – How did we get here - the Portuguese case: investing in safer roads

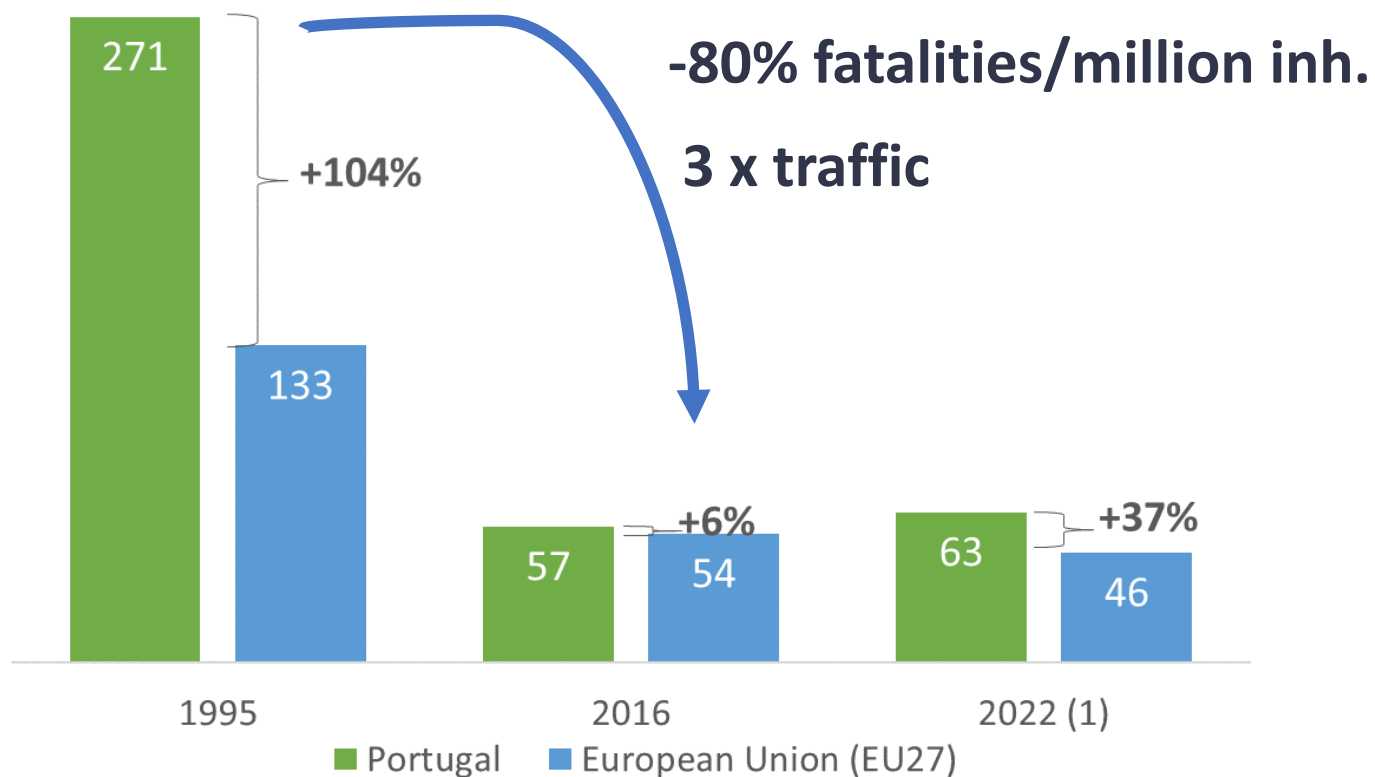
3 – The Portuguese Road Safety Strategy



4 – Repair the road system with 5 stars roads and streets: move to more self-explaning and forgiving system

1 - How is Portugal doing?

Last three decades



Fatalities per Million Inhabitants

Last decade



650 fatalities/year



+2.000 serious injuries/year

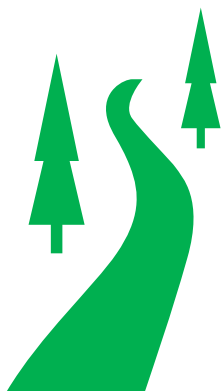
24% above EU27 in 2020

37% above EU27 in 2022⁽¹⁾

No reduction in the last 5 years of last decade

(1) Preliminary data

How is Portugal doing?



**45% Motorways and Rural Roads
outside villages – 14.500 – 14,5%**



**35% Urban Roads –
82.000km – 82%**



20%



23%



12%



11%



13%



20% Rural Roads Through Villages – 4.000 km – 4%



12%

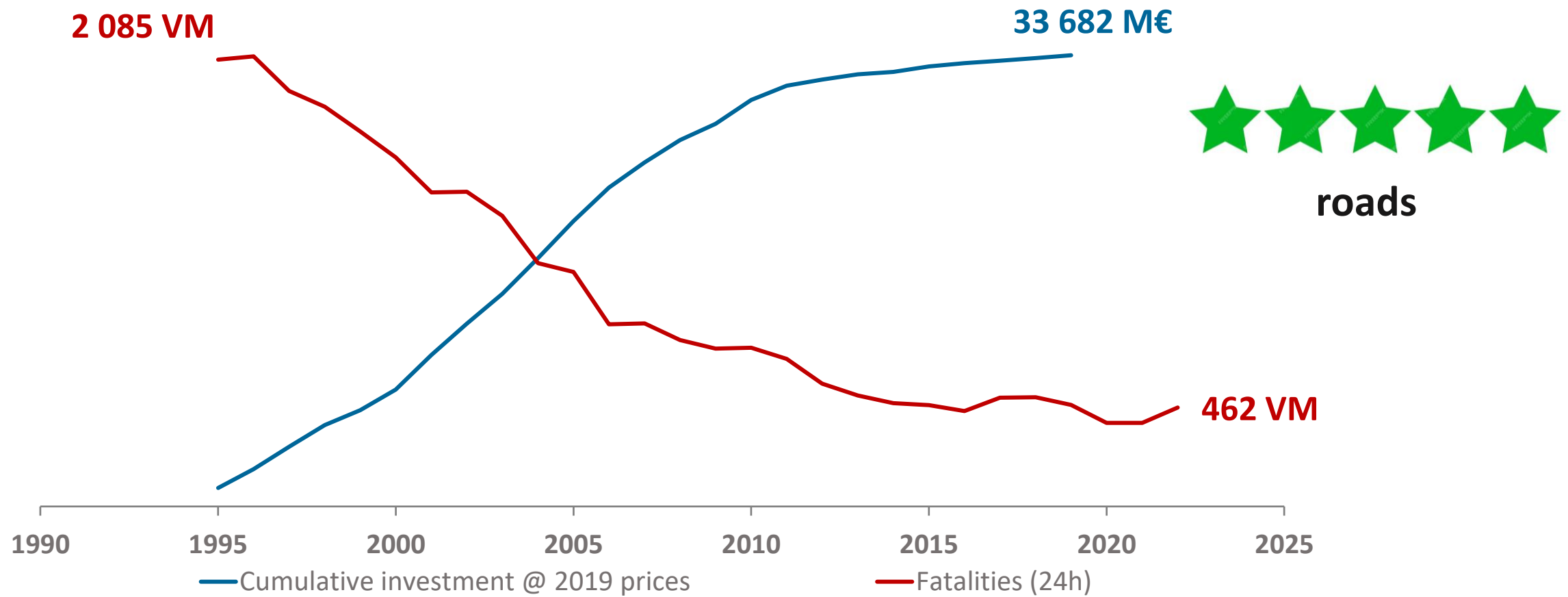


11%



13%

2 – How did we get here - the Portuguese case: investing in safer roads

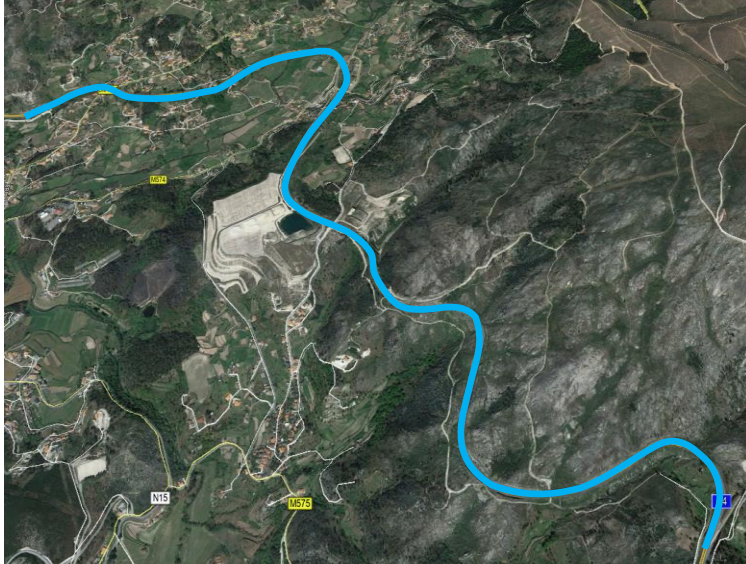


Source: OECD, UTAO, IP e ANSR

Investment in **+3.200 km** of roads with higher quality and safety

80% reduction in road fatalities

2 – How did we get here - the Portuguese case: investing in safer roads



IP4 – Alto do Espinho



- 20 km
- Speed limit: 90km/h-80km/h
- Mountainous region
- Difficult orography
- high altimetry (700m)
- Fog and snow
- Lack of visibility
- Reduced geometric characteristics: slopes 7% – 8%; curves < 350m; Δ specific speeds
- Lack of homogeneity
- No separated carriageways (2 or 3 lanes)
- High traffic, high %HV



2 – How did we get here - the Portuguese case: investing in safer roads



IP4 – Alto do Espinho
20 km
9 years
(1996 to 2004)



393 road crashes
48 fatalities
51% Head on
crashes



2 – How did we get here - the Portuguese case: investing in safer roads

In 2004 implementation set of measure, not only to reduce speed, but also to reduce the number of overtaking



- IP4 – Alto do Espinho (2005-2013)
- **43** lives saved (**48** to **5** p. year) - **90%**
 - **322** serious injuries prevented (**367** to **35** p. year) - **88%**
 - **2,5M€** investment
 - **45 M€** of economic and social benefit



2 – How did we get here - the Portuguese case: investing in safer roads

The “Transmontana” Motorway in 2012 and Marão Tunnel in 2016

2001- 2011
13 fatalities/year



-93%

2012- 2022
1 fatalities/year

- **160** lives saved(*)
- **+500M€** economic and social benefit



(*) including lives saved of the measures implemented in 2004

2 – How did we get here - the Portuguese case: investing in safer roads

Road Upgrading – IP5 Highway in a Motorway (A25) - Aveiro /Vilar Formoso



IP5

1996- 2006

19 fatalities per year



-84%

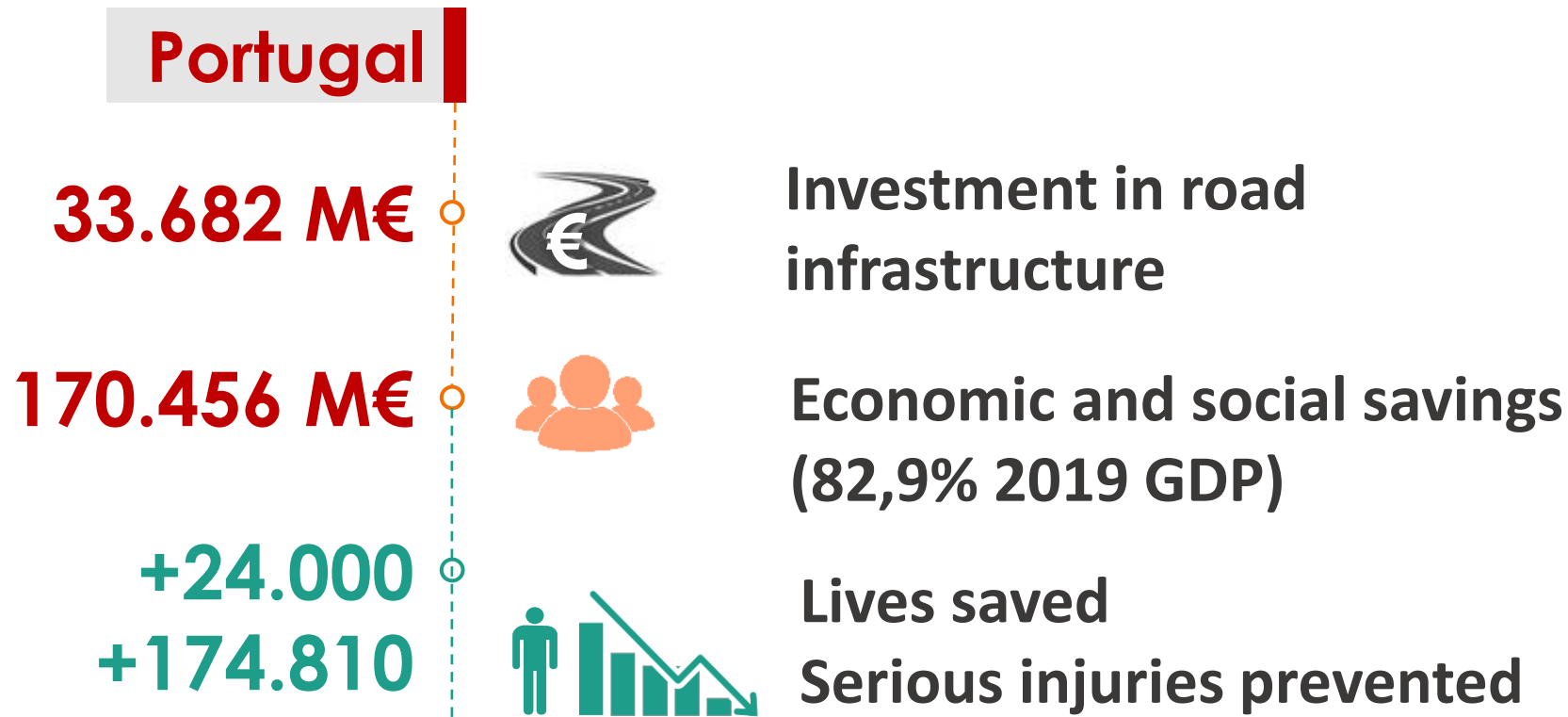
A25

2007 - 2017

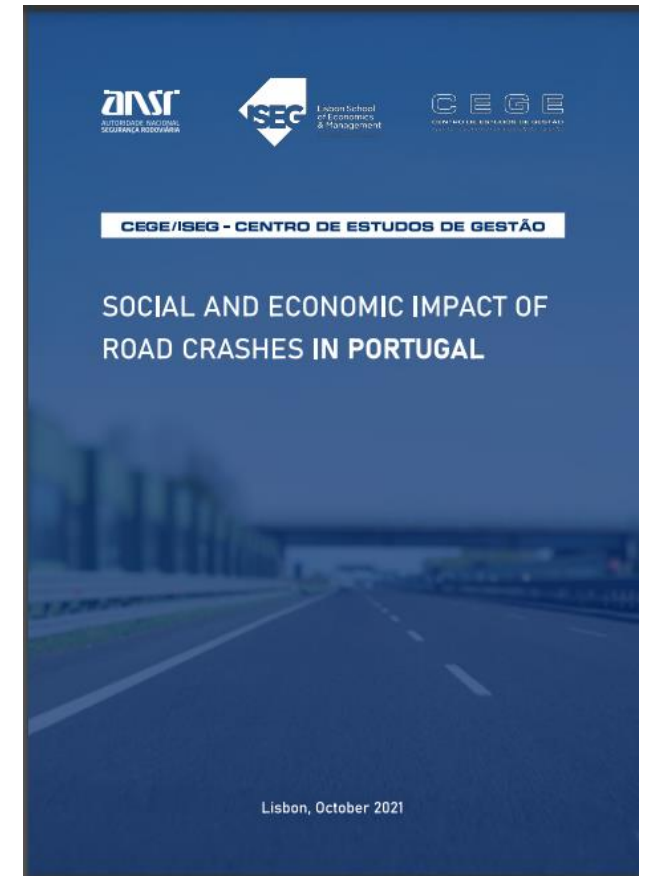
3 fatalities per year

- **220** lives saved
- **+700 M€** economic and social benefit

2 – How did we get here - the Portuguese case: investing in safer roads



Cost Benefit Ratio 1:5



<http://www.ansr.pt/Estatisticas/RelatoriosTematicos/Documents/Study%20on%20social%20and%20economic%20costs%20of%20road%20crashes%20in%20Portugal.pdf>

Note: 2019 values

3 – Portuguese Road Safety Strategy



Goal for 2030: reduce the number of deaths and serious injuries by 50%



	2019	2030	2030/2019
Road Fatalities	626	313	-50%
Serious InjuriesMAIS3+	2089	1044	-50%

Goal for 2050: Zero deaths and serious injuries

3 – Portuguese Road Safety Strategy

THE RESULTS OF REDUCING FATALITIES AND SERIOUS INJURIES BY 50% BY 2030

2.250 Fat
7.550 SI



Lives to be saved and serious injuries to be prevented

20.000 M€



Economic and social costs to be prevented

3 – Portuguese Road Safety Strategy

6 keys intervention areas

Inside Urban Areas

Post Crash Care

Outside Urban Areas

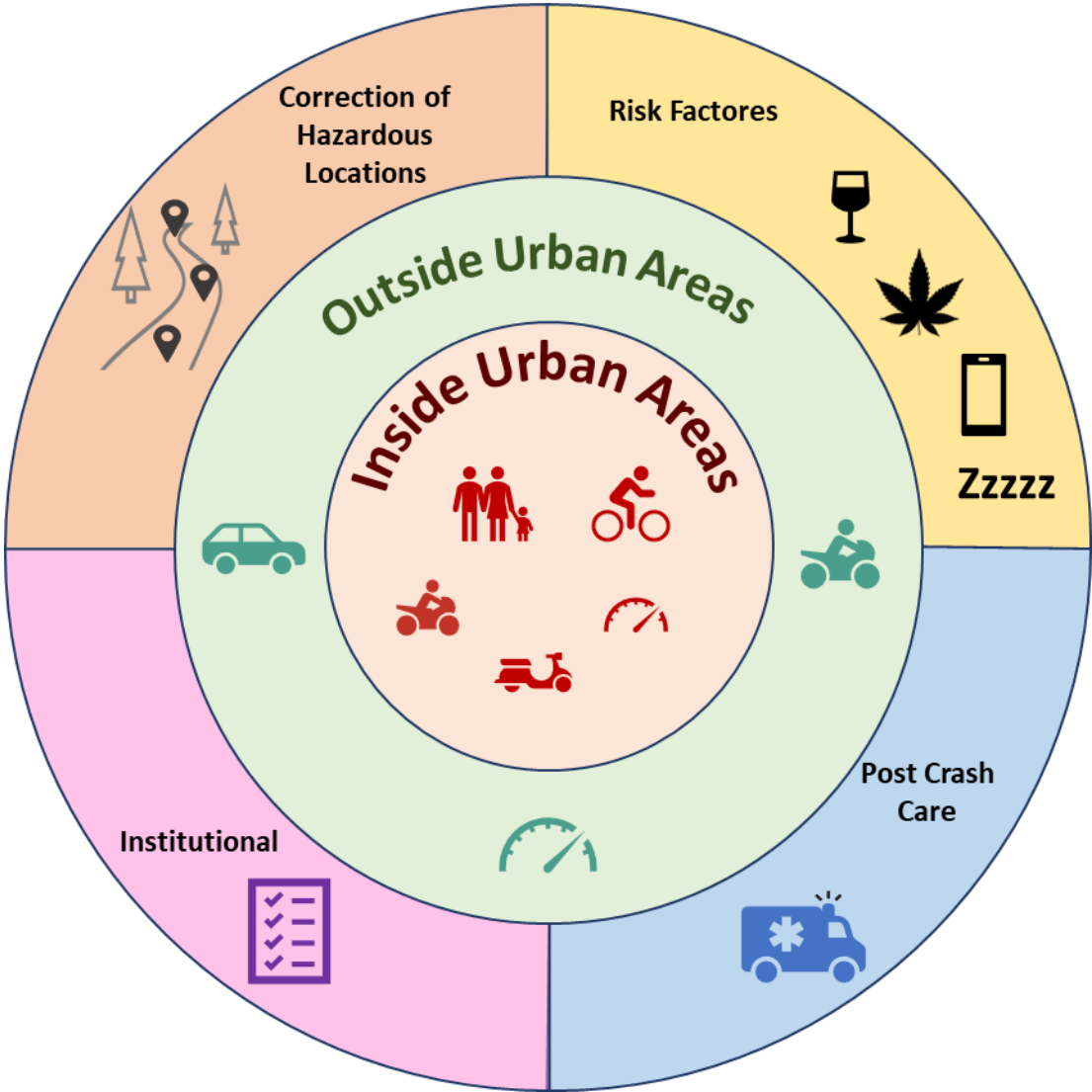
Institutional

Risk Factors

Correction of Hazardous
Locations

3 – Portuguese Road Safety Strategy

Divided in 14 components



INSIDE URBAN AREAS	 Pedestrians  PTW  Cyclists  Speed
OUTSIDE URBAN AREAS	 Car Occupants  Motorcyclists  Speed
RISK FACTORS	 Drink and Driving  Drugs  Distraction  Fatigue
POST CRASH	 Post Crash Care
INSTITUTIONAL	 Institutional
TARGET AREAS	 Correction of Hazardous Locations

3 – Portuguese Road Safety Strategy

Key intervention Areas	Safe System elements for reduction road injuries				
	Safe Users	Safe Infrastructures	Safe Vehicles	Safe Speeds	Post Crash Care
Inside Urban Areas					-
Outside Urban Areas					-
Risk Factors	 Zzzzz	-	 Zzzzz	-	-
Post Crash Care	-	-	-	-	
Institutional					
Correction of Hazardous Locations	-		-		-



Pedestrians

PTW

Cyclists

Speed

Car Occupants

Motorcyclists

Speed



Drink and Driving



Roads



Distraction

Zzzzz

Fatigue



Post Crash Care



Institutional



Correction of Hazardous Locations



MATRIX

3 – Portuguese Road Safety Strategy

KEY INTERVENTION AREAS	15 PROGRAMS VISION ZERO 2030®				
Inside Urban Areas	P1 – Municipalities (6M)	P2 – Schools (8M)	P3 – Treatment of Urban Crossings(4M)		P15 – PTW (9M)
Outside Urban Areas	P4 – Separation of traffic on Rural Roads (3M)	P5 – Improving Roadsides(8M)			
Risk Factors	P6 – Alcohol and Psychotropic Substances (11M)		P7 – Distraction and Fatigue(5M)		
Post Crash Care	P8 – Post Care Response (8M)				
Institucional	P9 – Road Infrastructure Assessment, Monitoring and Supervision (5M)	P10 – Research and Auditing (3M)	P11 – Dematerialization and Data Sharing(11M)	P12 – Legislation and Technical Documentation(11M)	P13 – Speed Management(8M)
Correction of Hazardous Locations	P14 – Correction of Hazardous Locations (3M)				

(P = Programs; M = Measures)



#InnoRAP2023 INNOVATION 2023

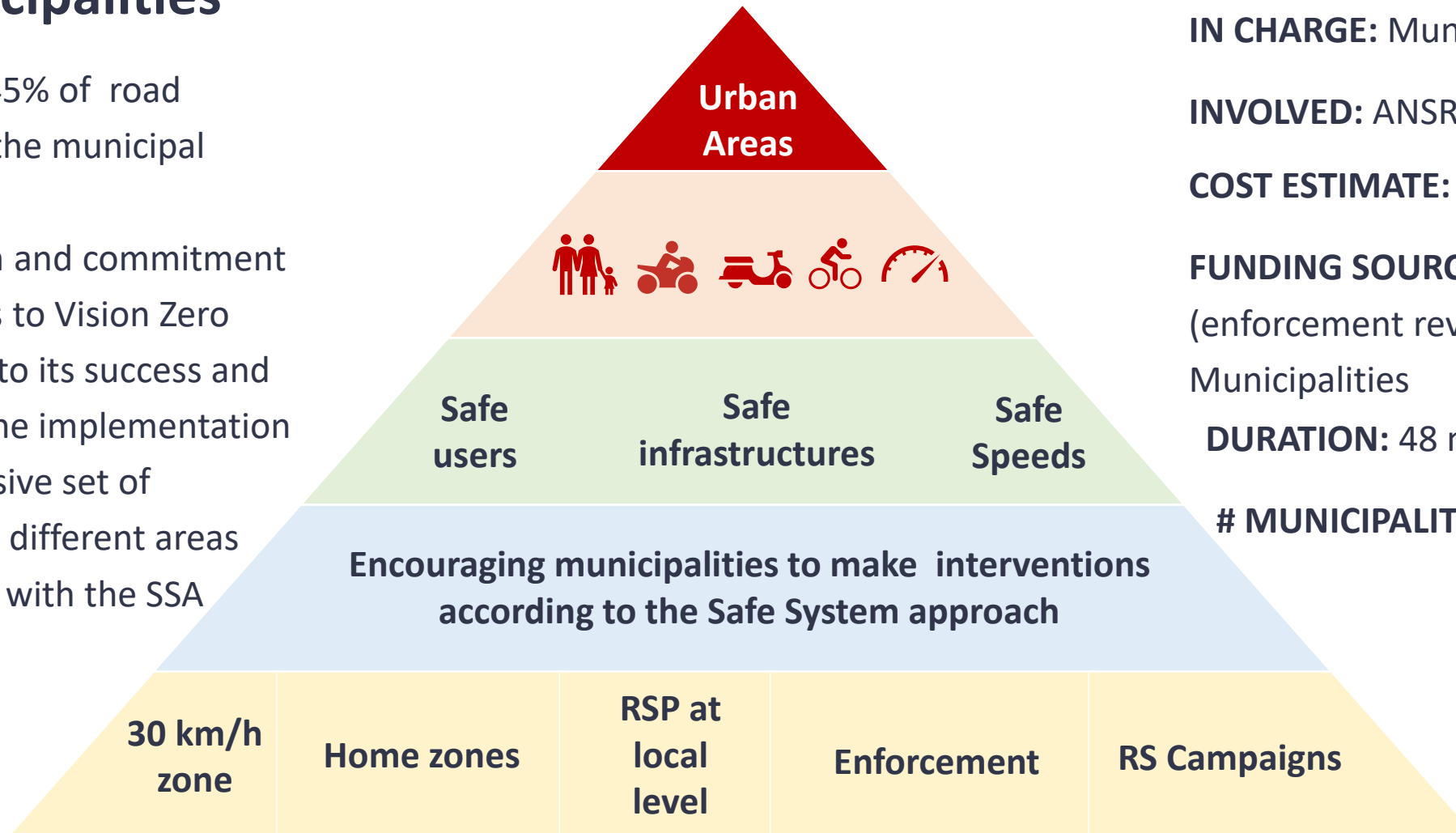
(P = Programs; M = Measures)

4 – Repair the road system with 5 stars roads

P1 - Municipalities

FRAMEWORK: 45% of road fatalities under the municipal network

The mobilization and commitment of municipalities to Vision Zero 2030® is critical to its success and translates into the implementation of a comprehensive set of interventions, in different areas of action, in line with the SSA



IN CHARGE: Municipalities

INVOLVED: ANSR, Police

COST ESTIMATE: 60M€/year

FUNDING SOURCES: ANSR (enforcement revenues) and Municipalities

DURATION: 48 months

MUNICIPALITIES: 30 / year (*)

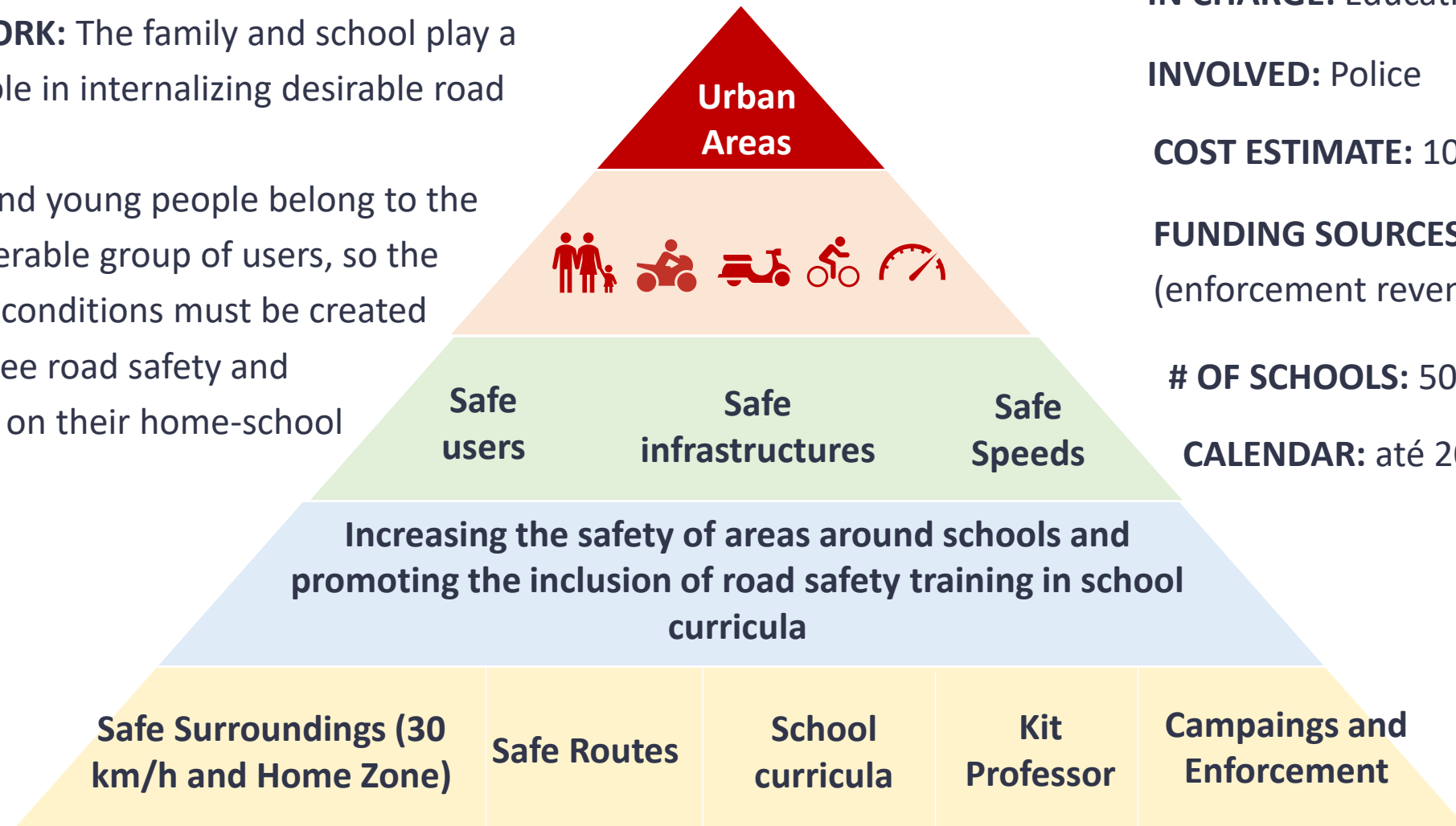
(*) pilot with 2 municipalities

4 – Repair the road system with 5 stars roads

P2 - Schools

FRAMEWORK: The family and school play a decisive role in internalizing desirable road behavior.

Children and young people belong to the most vulnerable group of users, so the necessary conditions must be created to guarantee road safety and autonomy on their home-school journeys.



IN CHARGE: Education e ANSR

INVOLVED: Police

COST ESTIMATE: 10M€/year

FUNDING SOURCES: Municípios, IP, ANSR (enforcement revenues) e DGE

OF SCHOOLS: 50/ano*

CALENDAR: até 2030

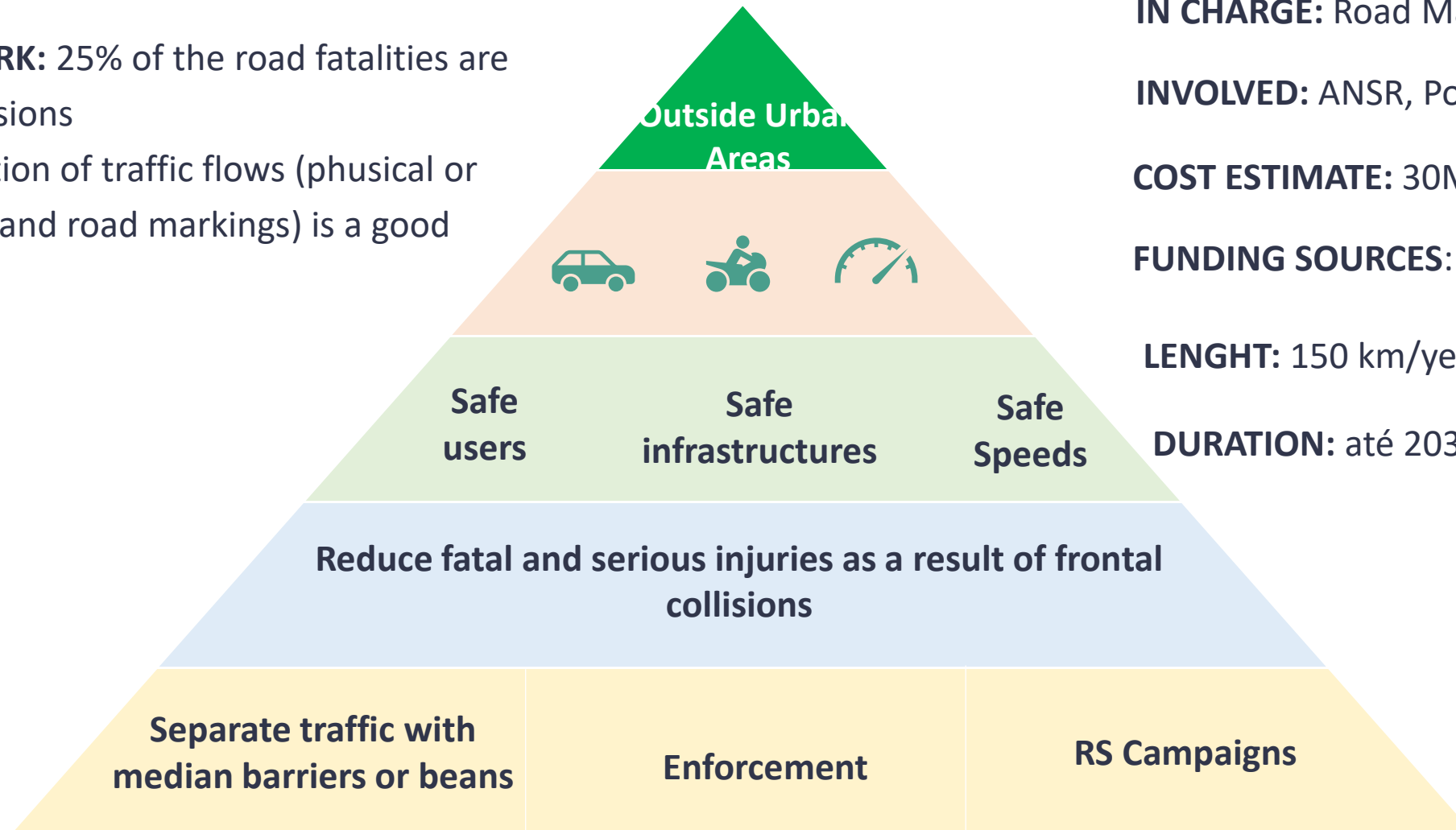
(*) pilot with 2 municipalities

4 – Repair the road system with 5 stars roads

P2 - Separation of traffic on Rural Roads

FRAMEWORK: 25% of the road fatalities are frontal collisions

The separation of traffic flows (physical or with beans and road markings) is a good exemplar of SSA



IN CHARGE: Road Managers

INVOLVED: ANSR, Police

COST ESTIMATE: 30M€/year

FUNDING SOURCES: Road managers

LENGTH: 150 km/year

DURATION: até 2030

4 – Repair the road system with 5 stars roads

P9 - Road Infrastructure Assessment, Monitoring and Supervision

FRAMEWORK: Comply with the RISM

Directive

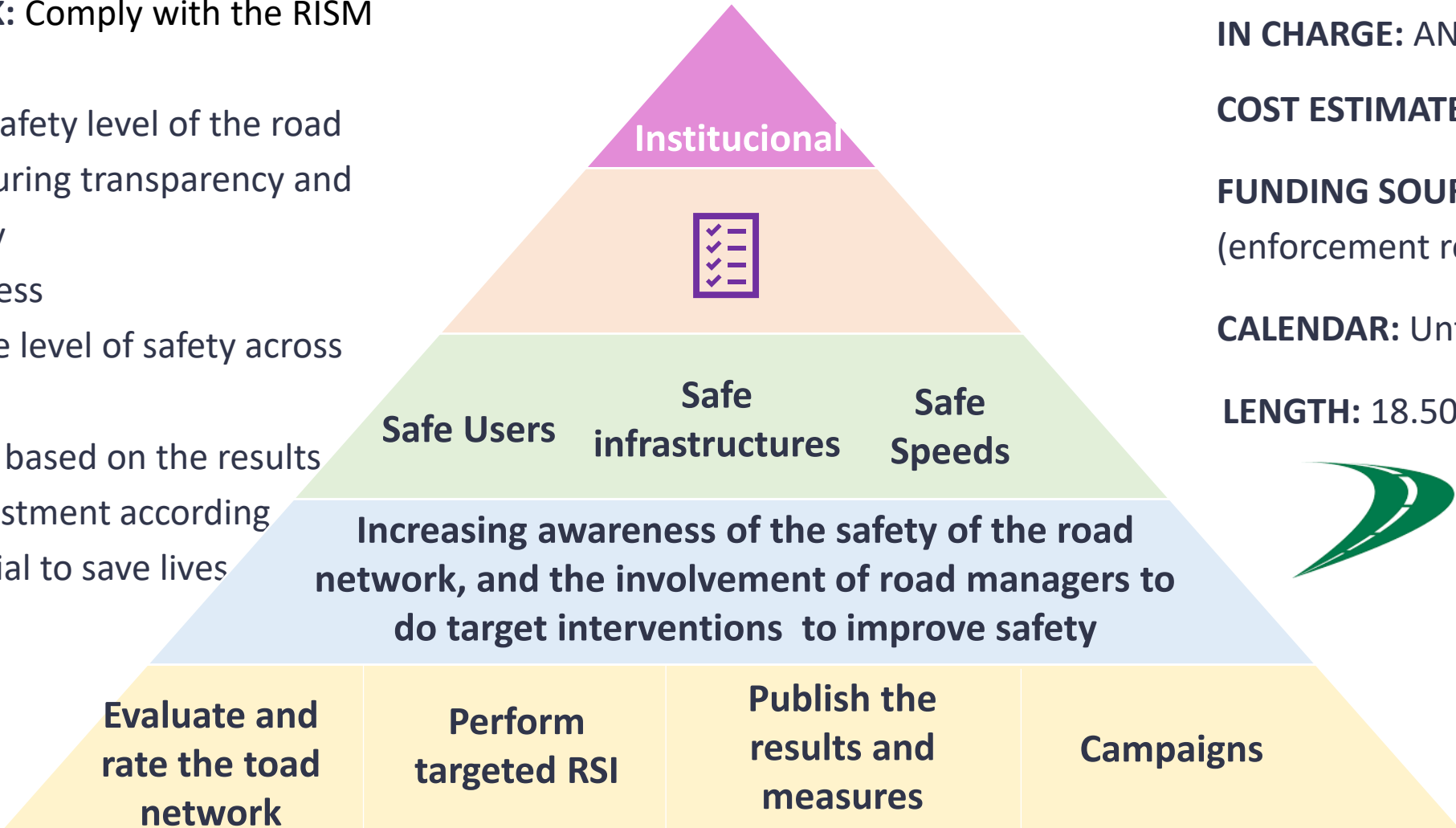
Disclose the safety level of the road network, ensuring transparency and accountability

Raise awareness

Compared the level of safety across the UE

Interventions based on the results

Prioritize investment according to the potential to save lives



IN CHARGE: ANSR

COST ESTIMATE: 2M€

FUNDING SOURCES: ANSR
(enforcement revenues)

CALENDAR: Until 2024

LENGTH: 18.500 km



4 – Repair the road system with 5 stars roads

Action Plans



2 - 3 years



Programs and the interventions



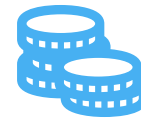
Entities in charge



Calendar



Cost Estimate



Funding Sources



Execution Indicators



Safety Performance Indicators

Vision Zero Pledge signed by the entities in charge and approved by the Ministry

4 – Repair the road system with 5 stars roads

The **SUCCESS** of the programs and measures of the Action Plans will be measured by the **Outcome Indicators**

The **Safety Performance Indicators** will measure **PROGRESS**, evaluating the contribution of each executed measure/intervention on the outcome indicators, ensuring transparency and accountability on the part of the participants.



4 – Repair the road system with 5 stars roads

16 SAFETY PERFORMANCE INDICATORS

ICD1 – Speed

ICD2A – Child Restrain Systems

ICD2B – Safety Belt

ICD3A – PTW Helmet

ICD3B – Cyclists Helmet

ICD4 – Alcohol

ICD5 – Distraction

ICD6 – Drugs

ICD7 - Fatigue

ICD8 - Vehicles

ICD9A-9E – Infrastructures (5)

ICD10 – Post crash care



For more information

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