



Hellenic
Ministry of Infrastructure
and Transport



National Technical
University of
Athens

Road Safety Strategic Plan Greece 2030



IRTAD Webinar

Adopting Safe System Strategies towards 2030:
Target Setting and Monitoring

9 March 2022

The Greek National Road Safety Plan 2021-2030: Linking and Monitoring Road Safety Targets, KPIs and Measures

George Yannis, Katerina Folla, Dimitris Nikolaou



Department of Transportation Planning and Engineering,
National Technical University of Athens

Presentation Outline

1. Road Safety in Greece (5)
2. Road Safety Targets for the decade 2021-2030 (4)
3. Road Safety Actions for the decade 2021-2030 (5)
4. Monitoring Road Safety Targets, KPIs and Measures (2)
5. Concluding Remarks (2)

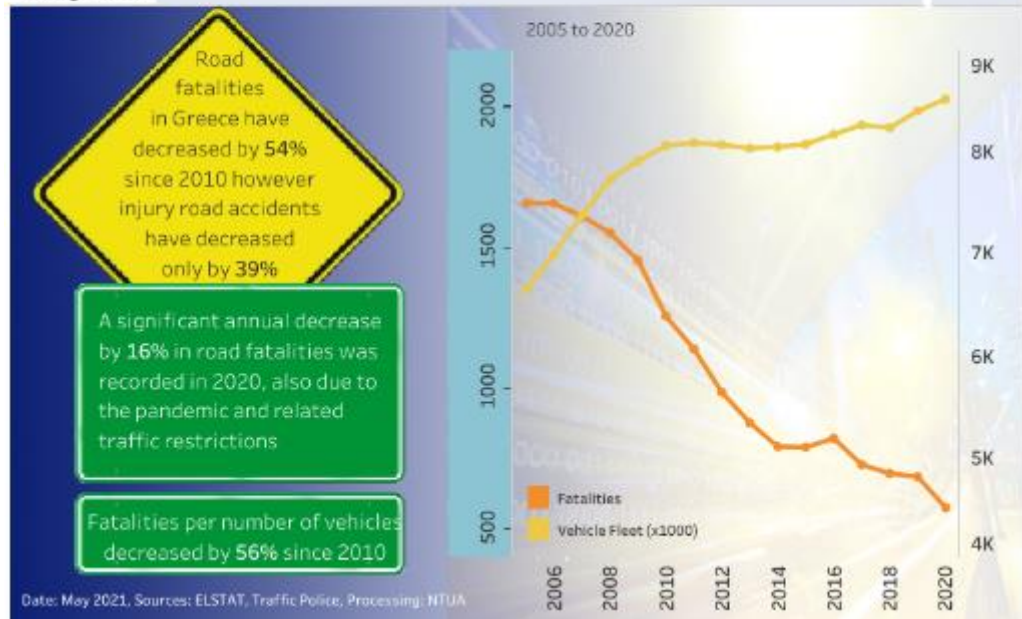
Road Safety in Greece



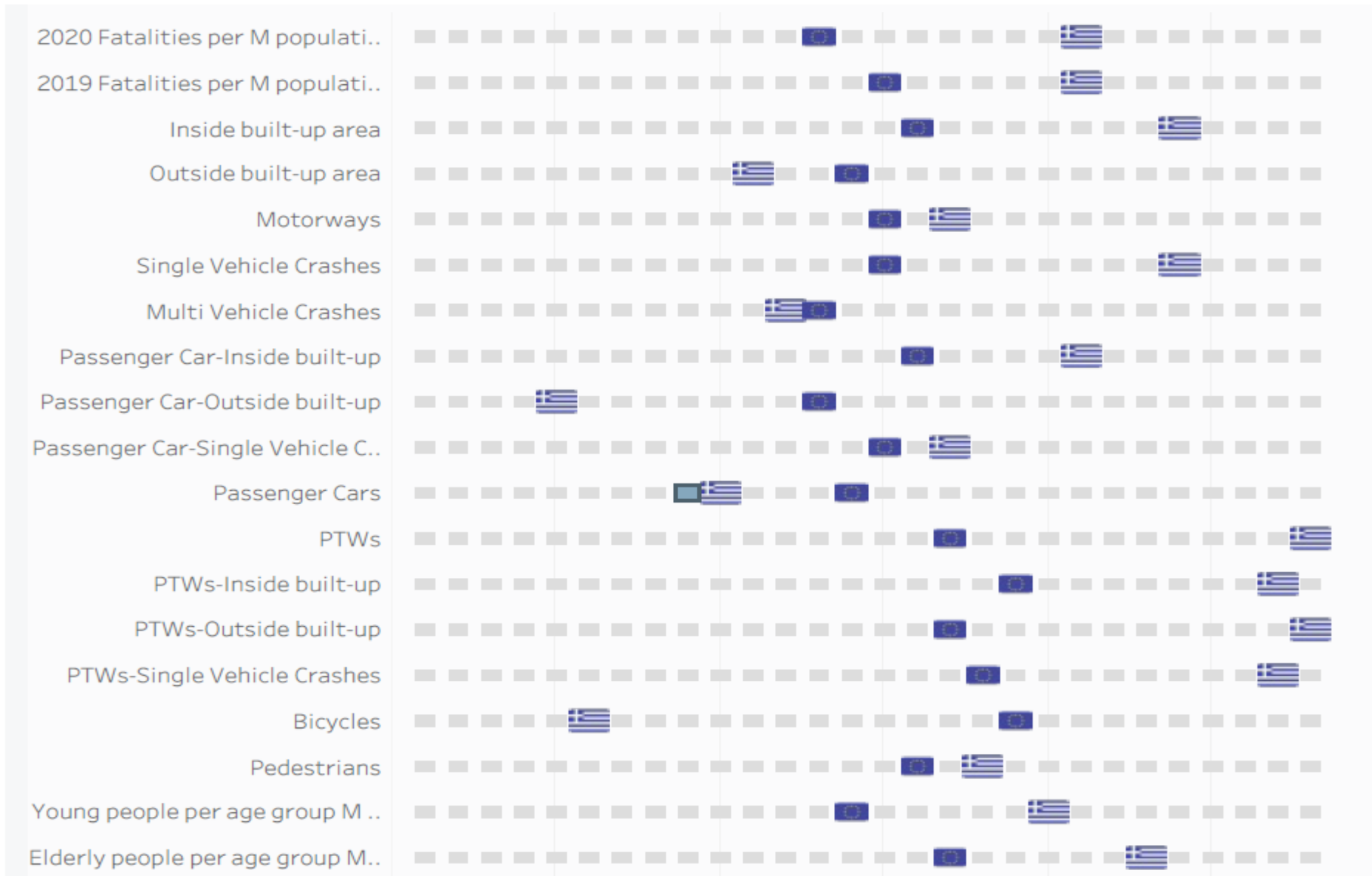
Road Safety Trends, 2010-2020

- Over the last decade, Greece recorded the most significant improvement in road safety among the EU countries, with a **54% reduction in road crash fatalities**, achieving the target of halving the number of fatalities in road crashes in 2020
- A **39% reduction in road crashes** and a **72% reduction in serious injuries** were also recorded
- The **fatality rate per thousand vehicles** was reduced by **56%**
- In 2020, the number of crash fatalities **decreased by 16%** compared to 2019. This impressive reduction is mainly attributed to the coronavirus pandemic and the corresponding traffic restriction measures

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2020/2010 2020/2019
Injury Road accidents	15,032	13,849	12,398	12,109	11,690	11,440	11,318	10,848	10,737	10,712	9,105	-39%
Fatalities	1,258	1,141	988	879	795	793	824	731	700	688	579	-54%
Serious Injuries	1,709	1,626	1,399	1,212	1,016	999	879	706	727	652	487	-72%
Slight Injuries	17,389	15,633	14,241	13,963	13,548	13,097	12,946	12,565	12,422	12,350	10,130	-42%
Vehicle Fleet (x1000)	8,062	8,087	8,070	8,035	8,048	8,076	8,173	8,263	8,237	8,402	8,519	9%
Fatalities per million vehicl..	156	141	122	109	99	98	101	88	85	82	68	-56%
Speed infringements	263,382	238,033	186,675	178,816	156,892	173,476	176,992	208,190	213,333	234,169	206,554	-22%
Drink & drive infringements	38,033	34,092	30,707	30,853	29,597	29,191	33,197	32,964	33,394	31,557	29,096	-45%
Helmet infringements	51,526	47,250	47,736	58,122	54,354	52,783	63,971	59,405	52,706	52,089	46,394	-10%
Seat belt infringements	49,703	37,120	33,722	35,478	34,526	29,611	34,631	31,510	33,380	34,694	30,174	-39%



Road Crash Fatalities in the EU, 2019



Road Safety Problems and Causes (1/2)

- One of the most significant road safety problems in Greece is the **high PTW fatality rate** (37%) in road crashes, compared to the respective rate in the EU (18%)
- Greece has one of the highest rates of killed vehicle occupants in road crashes **inside urban areas** (45%) among the EU countries (the EU average is about 30%)
- 51% of drivers and passengers are killed in **single vehicle crashes**, while the EU average is 38%
- 20% of drivers and passengers are killed in **single vehicle crashes occurring inside urban areas**, while the respective percentage in the EU is 12% on average

	% of fatalities (2017-2019)	Greece	EU (27)
Total	2119	100%	
Drivers	1427	67%	64%
Passengers	283	13%	15%
Pedestrians	409	19%	20%
Passenger Car occupants	1000	47%	45%
Passenger Car occupants inside urban areas	411	19%	10%
Passenger Car occupants outside urban areas	589	28%	35%
Motorcycle and Moped riders	779	37%	18%
Motorcycle and Moped riders inside urban areas	516	24%	7%
Motorcycle and Moped riders outside urban areas	263	12%	11%
Drivers/Passengers	1710	100%	
Inside urban areas	767	45%	30%
Outside urban areas	943	55%	70%
Passenger cars	754	44%	56%
Passenger cars inside urban areas	232	14%	12%
Passenger cars outside urban areas	522	31%	44%
Motorcycles/Mopeds	712	42%	23%
Motorcycles/Mopeds inside urban areas	454	27%	9%
Motorcycles/Mopeds outside urban areas	258	15%	14%
Single vehicle crashes	864	51%	38%
Single vehicle crashes inside urban areas	348	20%	12%
Single vehicle crashes outside urban areas	516	30%	26%
Drivers	1427	100%	
Inside urban areas	663	46%	31%
Outside urban areas	764	54%	68%
Passenger Cars	557	39%	50%
Passengers cars inside urban areas	172	12%	11%
Passenger cars outside urban areas	385	27%	39%
Motorcycles/Mopeds	662	46%	27%
Motorcycles/Mopeds inside urban areas	421	30%	11%
Motorcycles/Mopeds outside urban areas	241	17%	16%
Young (18-24 y.o.)	193	14%	12%
Elderly (65+ y.o.)	301	21%	23%
Passengers	283	100%	
Inside urban areas	104	37%	24%
Outside urban areas	179	63%	76%
Passenger Cars	197	70%	82%
Passengers cars inside urban areas	60	21%	19%
Passenger cars outside urban areas	137	48%	64%
Motorcycles/Mopeds	50	18%	5%
Motorcycles/Mopeds inside urban areas	33	12%	2%
Motorcycles/Mopeds outside urban areas	17	6%	3%
Pedestrians	409	100%	
Inside urban areas	310	76%	72%
Outside urban areas	99	24%	28%
Young (18-24 y.o.)	16	4%	4%
Elderly (65+ v.o.)	233	57%	49%

Sources: CARE, ELSTAT,
Processing: NTUA



Road Safety Problems and Causes (2/2)

- Only 21% of killed drivers in passenger cars were using a **seat belt**
- 31% of killed motorcycle and moped drivers were wearing a **helmet**
- Killed passengers of both vehicle types showed **similar behavior** with that of drivers concerning the use of protective equipment
- 55% of passenger car occupants and 43% of PTW riders were killed in **single vehicle crashes**

	Car Occupant Fatalities			Motorcyclist and Moped Fatalities		
	Use of seat-belt	No use of seat-belt/ not recorded	Total	Use of helmet	No use of helmet/ not recorded	Total
Drivers						
2017	40	167	207	62	166	228
2018	34	156	190	59	143	202
2019	45	115	160	81	151	232
Total	119	438	557	202	460	662
Percentage	21%	79%	100%	31%	69%	100%
Passengers						
2017	14	64	78	5	15	20
2018	13	64	77	3	12	15
2019	8	34	42	3	12	15
Total	35	162	197	11	39	50
Percentage	18%	82%	100%	22%	78%	100%

	Car Occupant Fatalities			Motorcyclist and Moped Fatalities		
	Single vehicle crashes	All crashes	%	Single vehicle crashes	All crashes	%
2017	163	285	57%	90	248	36%
2018	130	267	49%	105	217	48%
2019	125	202	62%	111	247	45%
Total	418	754	55%	306	712	43%



Road Crash Factors in Greece

The **most critical factors** leading to fatal and severe road crashes in Greece are:

- driving at high speeds
- high traffic rates of motorcyclists
- low rates of seat belt and helmet use (especially for passengers)
- unorganized and unprotected traffic of vulnerable road users
- aggressive driving



Road Safety Targets for the decade 2021-2030



Directions of Road Safety Plan



- The **New National road Safety Plan 2021-2030** will be adopted and released before Summer 2022, after the second phase of the open consultation
- **A holistic approach of the safety of road transport system** for the decade 2021-2030, adopting:
 - the safe system approach
 - the Vision Zero by 2050
- This new approach defines **four main directions** of the Road Safety Plan:
 - Ambitious Vision
 - Effective Implementation
 - Innovative Technologies
 - Shared Responsibility

Targets for the reduction of casualties in road crashes (draft)

	Target			Target (Percentage reduction)			Lives to be saved (annually)	
	Baseline Year 2019	2025	2030	Baseline Year 2019	2025	2030	2025	2030
1. Fatalities	688	482	344	-	30%	50%	206	344
2. Serious Injuries	652	456	326	-	30%	50%	196	326
3. Killed Motorcyclists	247	148	84	-	40%	66%	99	163
4. Cities with zero fatalities*	9	40	49	-	-	-	85	105
5. Killed on motorways	50	10	0	-	80%	100%	40	50
	Target			Target (Percentage)			Lives to be saved (annually)	
6. Killed in single vehicle crashes	280	152	95	51%**	40%**	35%**	128	185
	Target			Target (EU ranking)			Lives to be saved (annually)	
7. Road safety performance (fatality/population rate below the EU average)	688	482	344	21 st position	16 th position***	13 th position***	206	344

* Cities with population between 50.000 and 100.000 residents

** Percentage of killed persons in single vehicle crashes in total number of killed occupants (drivers and passengers)

*** The estimation of the figures is based on population projections for Greece from the World Bank and the assumption that the same declining trend of road fatalities per population with that of the decade 2021-2030 remains for all EU countries, while Greece achieves the target of halving road fatalities in 2030



Targets for the improvement of road safety performance (draft)

KPIs	Baseline Year 2019*	Target 2025	Target 2030
1. Helmet Use	70%	>85%	>95%
2. Seat-belt use	70%	>85%	>95%
3. Mobile phone use	10%	<5%	<2%
4. Speeding	40%	<25%	<20%
5. Driving under the influence of alcohol	-	30%**	50%**
6. Percentage of new passenger cars with 5 Euro NCAP stars	50%	70%	>99%
7. Percentage of TEN-T network (≥ 3 stars)	50%	65%	80%

Additional Quantitative Targets for **18 road safety KPIs** by:

➤ **Road Type:**

Urban roads
Interurban roads*
Motorways

➤ **Road User Type:**

Driver
Passenger

* Values of the baseline year (2019) are estimated based on pilot measurements and the latest available data, which will be updated with the respective values from the Baseline project (Spring 2022)

** Percentage reduction compared to the baseline year

Road Safety Performance Target – EU Ranking

- **13th position** among the 27 EU countries in terms of road fatalities per population in 2030.
- Political will and wish, aiming to be used to **motivate** the Authorities and the road users to work towards the reduction of crashes and casualties.
- Based on a **mathematical approach** extrapolating the 2010-2020 road fatalities trend in Greece, which was faster than the respective trend of the other EU MS, which demonstrates that if Greece continues the faster pace, it can advance from position 20 to position 13 (just below the EU median).



Road Safety Actions for the decade 2021-2030



Actions and Measures by Pillar (draft)

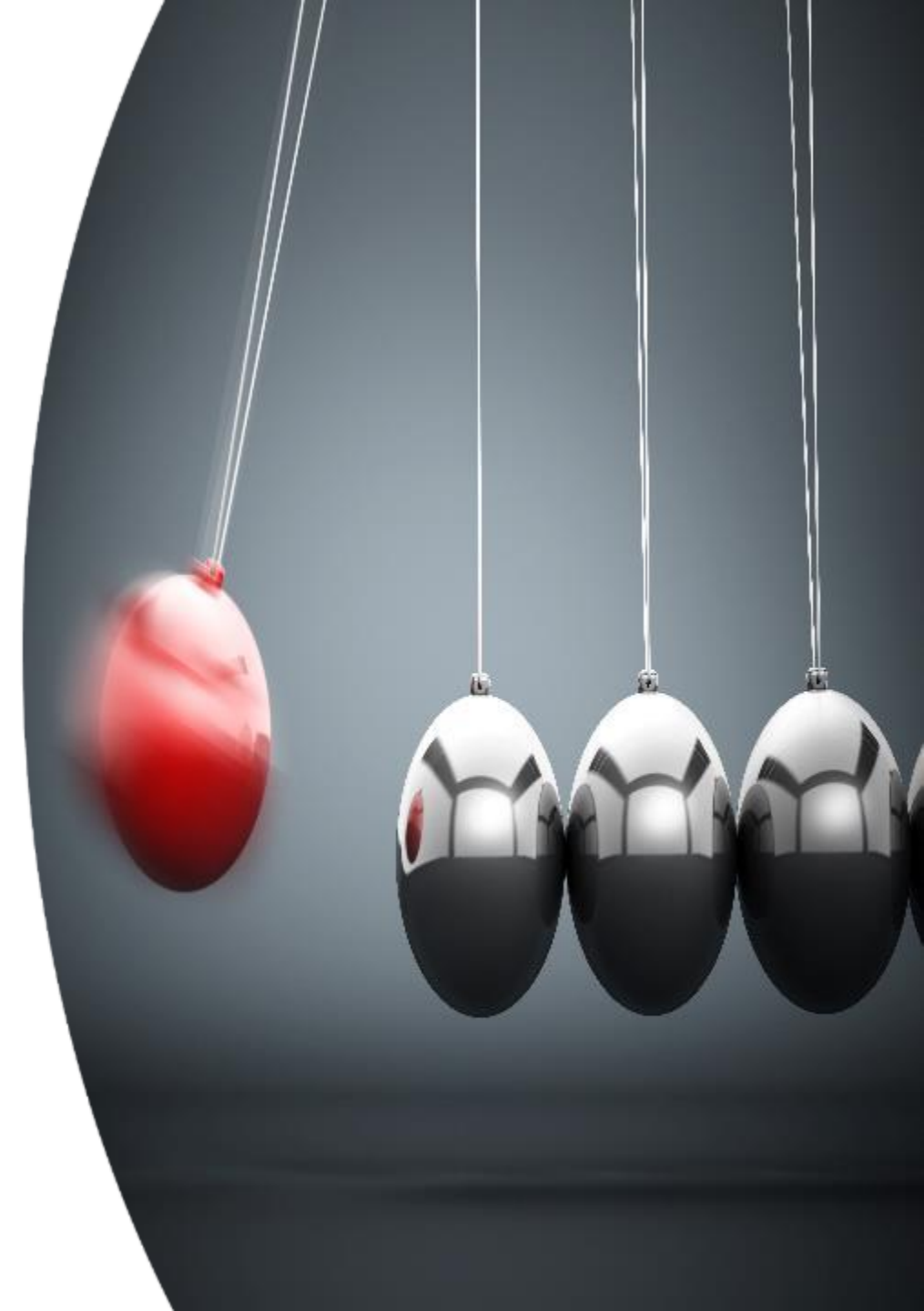
Pillars	Actions	Measures
Road Safety Management	9	40
Road User Behaviour	8	40
Road Infrastructure & Traffic	14	68
Vehicles	7	26
Post-crash care	6	26
Total	44	200

Monitoring Road Safety Targets, KPIs and Measures

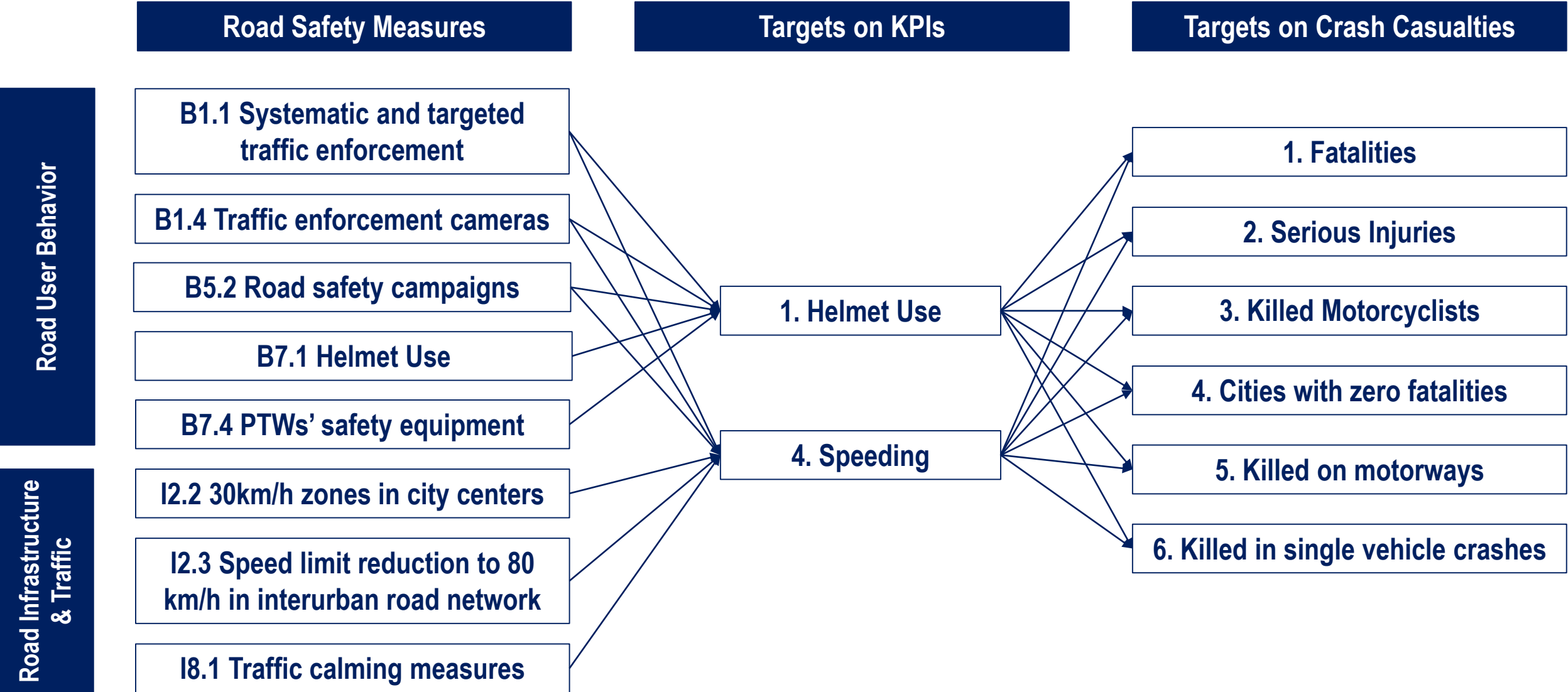


Linking actions with KPIs and targets

- Priority actions and measures were **matched** with key problems and causes
- The **safety benefit** (lives saved) of the road safety actions and measures was estimated based on:
 - the effect of measures on KPIs
 - the effect of KPIs on Targetsexploiting international literature and knowledge from best EU performing countries
- Special attention was given to the estimation of the **combined effects** of the various actions and measures
- The **crash reduction targets set, are linked with the KPI targets** and the related priority actions and measures, addressing key road safety problems identified



Linking Targets, KPIs and Measures – Example



Monitoring System

- A three-level integrated system is suggested for monitoring the implementation of road safety actions and evaluating road safety performance:
 - Monitoring the **implementation of road safety actions**, as defined in the Strategic Plan (budget, timeframe, etc.).
 - Monitoring **road safety performance compared to the targets set** in the Road Safety Plan
 - Long- and mid-term targets for the reduction of crash casualties
 - Long- and mid-term targets on KPIs
 - Evaluating the **effectiveness of the road safety measures** by comparing road safety performance before and after their implementation

Key →

Performance →

Indicator →

Concluding Remarks



Conclusions (1/2)

- With the New Road Safety Strategic Plan 2021-2030, Greece has adopted the **Safe System Approach** and the **Vision Zero** by 2050
- Alignment with the EU Road Safety Strategy aiming to **halve road fatalities and serious injuries by 2030** (compared to 2019)
- The New National Road Safety Plan for Greece proposes **14 targets for 2030**, with intermediate targets for 2025
 - 7 targets concern **crash casualties reduction**
 - 7 targets concern **road safety performance improvement**



Conclusions (2/2)

- A complete list of **200 Measures** within **44 Actions** within the **5 UN Pillars** (Management, Road User, Infrastructure, Vehicle, Post-crash care) is set
- The **crash reduction targets are linked with the KPI targets** and the related priority measures, based on the identification of the key road safety problems
- An integrated system for **monitoring road safety progress** is proposed aiming to provide a continuous picture of the Strategic Plan Implementation and the necessary adjustment of the efforts in order to meet the decade targets set





Hellenic
Ministry of Infrastructure
and Transport



National Technical
University of
Athens

Road Safety Strategic Plan Greece 2030



International
Transport Forum



Road Safety Data

IRTAD Webinar

Adopting Safe System Strategies towards 2030:
Target Setting and Monitoring

9 March 2022

The Greek National Road Safety Plan 2021-2030: Linking and Monitoring Road Safety Targets, KPIs and Measures

George Yannis, Katerina Folla, Dimitris Nikolaou



Department of Transportation Planning and Engineering,
National Technical University of Athens