



Friday

Workshop  
in the framework of

19 May

7th UN Global Road Safety Week

2023

Road Safety Research Challenges

13:00-17:00



[unroadsafetyweek.org](http://unroadsafetyweek.org)

30km/h  
Speed Limit for  
Safer, Healthier and  
Greener Cities



Promoting 30 km/h speed limit  
Running 30 Marathons in 30 months

**George Yannis**

Professor NTUA

Together with:

Stella Roussou



**George runs 30 Marathons in 30 Months for 30km/h speed limit in all cities**

# Promoting 30 km/h speed limit

## ➤ Supported by:

- European Transport Safety Council (ETSC)
- Cities and regions for Transport Innovation (POLIS)
- European Conference of Transport Research Institutes (ECTRI)
- National Technical University of Athens Road Safety Observatory (NRSO)
- Department of Transportation Planning and Engineering (NTUA)
- Hellenic Institute of Transportation Engineers (SES)

## ➤ Duration:

- 30 months (July 2022– November 2024)



# Speeding Kills (1/2)

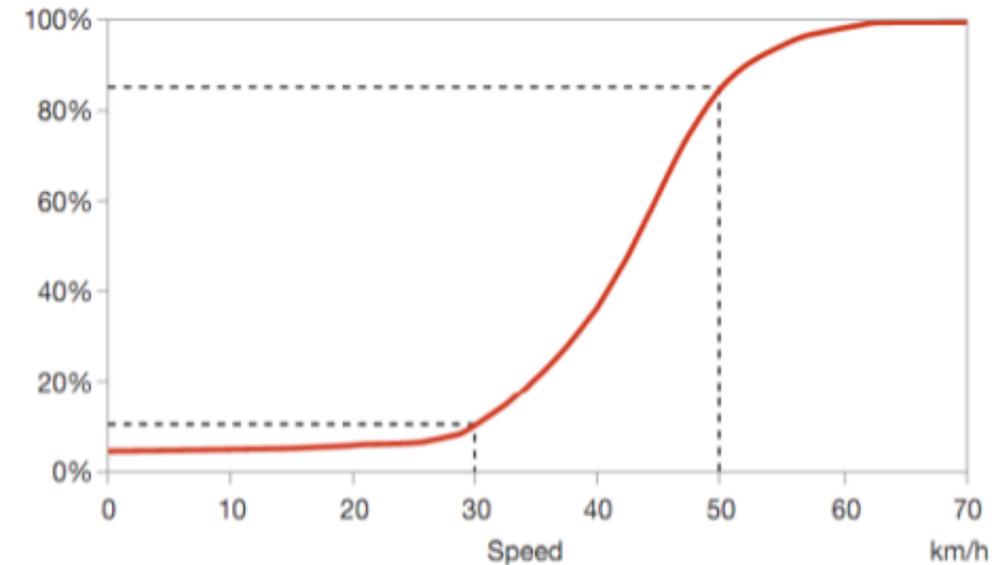
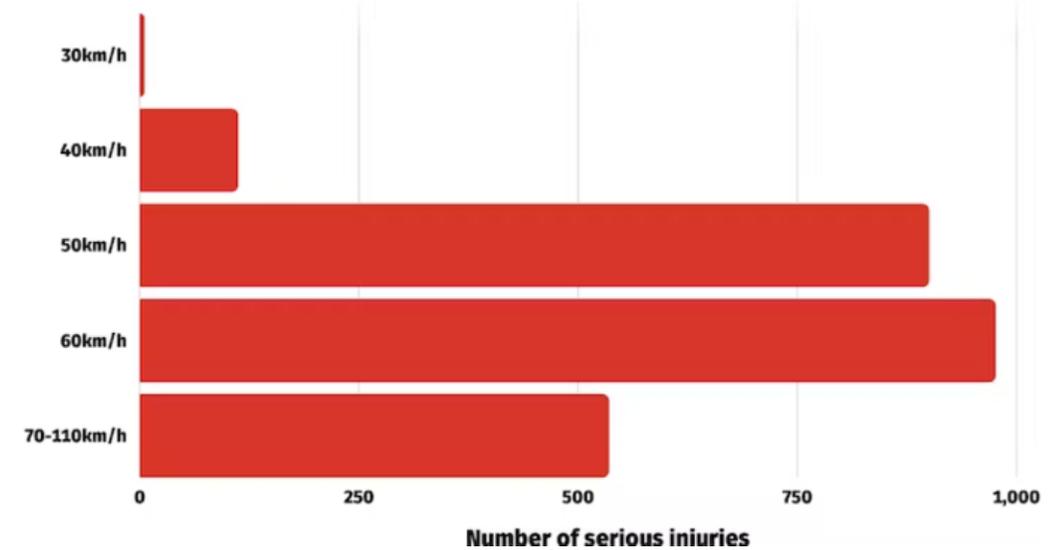
- Road crashes is a **major societal problem** worldwide, with 1,35 million road fatalities per year and more than 50 million of road injuries
- Speeding is the **number one cause of road crashes** worldwide, especially in cities where pedestrians, cyclists and motorcyclists are highly exposed and vulnerable in case of a collision.
- Speed has been found to be a **major contributory factor** in around 10-15% of total crashes and in around 30% of fatal crashes
- Both excessive speed (driving above the speed limit) and inappropriate speed (driving too fast for the conditions, but within the limits) are **important crash causation factors**
- Speed effects the **quality of life** of urban residents, especially the safe mobility of vulnerable road users

*Speeding is the number one cause of road crashes worldwide and the main reason for pedestrian, cyclist and motorcycle casualties in cities*



# Speeding Kills (2/2)

- When speed increases, the risk of a **crash and of its severity** increases as well
- The increase in crash risk is usually attributed by the fact that when speed increases, the **time to react** to changes in the environment is shorter and manoeuvrability of a speeding car is smaller
- The relationship between speed and crash risk is a **power function**: With increasing speed, the crash risk increases more as the absolute speed is higher
- There is also a strong **statistical relationship** between speed and road crashes
- A 5% increase in average speed leads to approximately a 10% increase in all **injury crashes** and a 20% increase in **fatal crashes**



# 30km/h Speed Limit in Cities (1/2)

- Reductions in speed limits are intended to **improve road safety** by decreasing travelling speed and thus reducing the risk of crashes occurring and the severity of crashes that do occur
- As **urbanization and motorization** continue to grow, a speed limit of 30 km/h should be standard in all places where cars, cyclists, and pedestrians interact
- Streets that promote safe **walking and cycling** can reduce car dependency and harmful vehicle emissions that contribute to climate change
- Based on **crashes in France** the mortality risk of pedestrians, when hit by a car was low (about 1%) at an impact speed of 30 km/h, but increased by a factor of 2 at 40 km/h, a factor of 6 at 50 km/h and a factor of 18 at 60 km/h

*30km/h Speed Limit for Safer, Healthier and Greener Cities*



# 30km/h Speed Limit in Cities (2/2)

- Some City Authorities started to understand the fatal role of speeding in city streets and attempt to implement policies of lower speeds, often through the adoption of smaller or larger zones with **speed limit of 30 km/h** (20 miles/hour); in some cases, covering the whole city (e.g. Europe's capital, Brussels)
- One year after the implementation of the 30 km/h speed limit across the **city of Brussels**, various positive reports have shown a **50% reduction in road fatalities**, simultaneous increases in the number of cycling journeys being taken and a solid preference for public transport as a primary mode of commuting
- **Graz in Austria** was the first major European city to adopt a zone of 30 km/h limit, applying to all city areas, in 1992. Already in the first two years of the policy, the number of traffic accidents decreased by 25 percent. Nowadays, in this city covering some 127.58 km<sup>2</sup>, 80% of roads are limited to 30 km/h.

Cities	Results
Zurich, Switzerland	38% reductions of serious road crashes
Edinburgh, UK	371 fewer crashes per year
Bilbao, Spain	22.9% reduction of road crashes
Grenoble, France	50% reduction in injured or killed pedestrians
Paris, France	40% reduction of serious and fatal accidents
Münster, Germany	72% reduction of people severely injured



# Cost Benefit Analysis for the city of Athens

A Cost Benefit Analysis was implemented till the year 2030, by including all the **Costs** (Implementation and Operational) and all the **Benefits** (Road Crashes, Fuel Consumption, Emissions) which concludes to the following **results**:

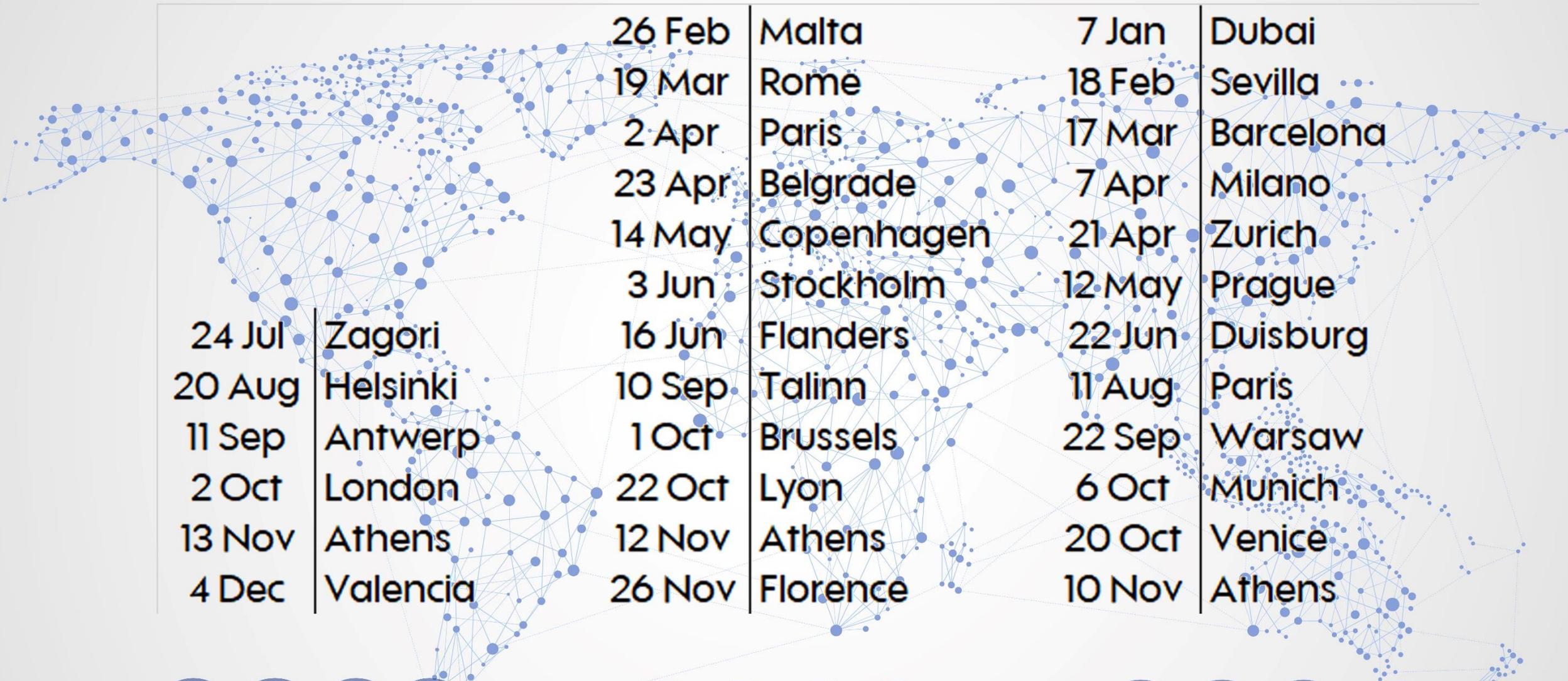
- Economic Net Present Value (ENPV) calculated **approx. 35 million**
- The Economic Rate of Return (ERR) is greater than the Social Discount Rate (SDR): **ERR=64,5% > SDR=0,8%**
- The Benefit, Costs ratio is greater than 1, precisely is **B/C=1,55**
- The **reduction of deaths and injuries** amounts to **130 million €** over a 10-year period, which is the most important economic benefit arised due to the improvement of road safety



# The Cause

- Scientific evidence from several cities so far, demonstrates more than **40% lives saved with the introduction of 30km/h zones**; in parallel to significant environmental, energy and health impacts with less fuel consumption and more walking and cycling
- The discussion and introduction of 30 km/h city zones faces strong reactions and rigid inertia, whereas supporters' voices are **weak and inefficient** resulting in hesitant politicians and Authorities.
- After more than 30 years of dedication to road safety science and several Marathon races, stepping beyond the continuous scientific pleas and **promoting more actively** the 30 km/h city through the challenge of 30 Marathons in 30 months.





2022

2023

2024

# Marathons



1. Zagori Mountain-23 July 2022  
The Beyond the limits - 11:21:38



2. Helsinki, Finland-20 August 2022  
The Summer - 3:45:04



3. Antwerp, Belgium-11 September 2022  
The Slow-Fast - 3:33:40



4. London, UK-2 October 2022  
The Noisy - 3:31:47



5. Athens, Greece – 13 November 2022  
The Pain - 3:54:27



6. Valencia, Spain – 4 December 2022  
The Fracture - 3:58:13



7. Malta – 26 February 2023  
The Knights - 3:55:13



8. Rome, Italy – 19 March 2023  
The Legendary - 3:55:55



9. Paris, France – 2 April 2023  
The Beautiful - 3:52:02



10. Belgrade, Serbia – 23 April 2023  
The Celebration - 3:55:27



11. Copenhagen, Denmark – 14 May 2023  
The Cycling City - 3:53:16

George Yannakis, Promoting 30km/h speed limit - Running 30 Marathons in 30 months





**30km/h**  
Speed Limit for  
Safer, Healthier and  
Greener Cities



National Technical University of Athens  
Road Safety Observatory

StreetsforLife  
#RethinkMobility

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WE DEMAND  
SAFE AND SUSTAINABLE  
MOBILITY

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Road Safety Research Challenges

DECADE OF ACTION FOR  
ROAD SAFETY  
2021 - 2030

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