#### Session I: Reducing Speed Limits 27 November 2024

# Review of impacts of city-wide 30km/h speed limit

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# Conclusion

Scientific evidence on 30km/h city-wide schemes

30 Marathons in 30 months campaign

#### Key facts about speeding







**Cost benefit analysis example** 





- Critical assessment of the effectiveness of city-wide 30 km/h speed limit in order to enhance urban sustainability
- Identification of changes before and after the implementation of citywide 30 km/h speed limits in terms of:





## Methodology

- Meta-analyses of 70 studies from 17 cities were reviewed
- Systematic search of relevant scientific and grey literature, according to the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA)
- The inclusion criteria for selecting relevant studies were:
  - ✓ Search term
  - Year of publication
  - ✓ Source





# Speeding Kills (1/2)

- 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 (70% of fatalities in urban areas are VRUs)
- Speed has been found to be a major contributory factor in around 10-15% of total crashes and in around 30% of fatal crashes





# Speeding Kills (2/2)

- When speed increases, the risk of a crash and of its severity increases as well
- A 5% increase in average speed leads to approximately a 20% increase in fatal crashes
- Pedestrian fatalities increase from 10% in 30km/h collisions to 90% in 50km/h collisions







## Benefits from 30km/h Speed Limit

<u>Yannis, G., & Michelaraki, E. (2024). Effectiveness of 30 km/h speed limit – A literature review.</u> Journal of Safety Research, Vol. 92, November 2024

Setting a speed limit of 30 km/h where people and traffic mix, make streets **safer**, **R healthier**, greener and more liveable



Fuel consumption reduction



## Cities with 30 km/h Speed Limit

A/A	City	<b>Implementation Started</b>	A/A	City	<b>Implementation Started</b>	
40	Amsterdam	December 2023	20	Lille	August 2019	
39	Wales	September 2023	19	Helsinki	May 2019	
38	Bologna	July 2023	18	Madrid	September 2018	
37	Florence	November 2022	17	Bilbao	June 2018	
36	Copenhagen	June 2022	16	Strasbourg	February 2017	
35	Lyon	March 2022	15	Dublin	January 2017	
34	Den Haag	December 2021	14	Berlin	January 2017	
33	Zurich	December 2021	13	Edinburgh	July 2016	
32	Toulouse	November 2021	12	London	June 2016	
31	Vienna	September 2021	11	Grenoble	January 2016	
30	Paris	August 2021	10	Ljubljana	September 2015	
29	Montpellier	August 2021	9	Luxembourg	August 2015	
28	Münster	July 2021	8	Ghent	April 2015	
27	Valencia	May 2021	7	Bristol	2015	
26	Leuven	April 2021	6	Munich	2011	
25	Brussels	January 2021	5	Brighton	2010	
24	Nantes	August 2020	4	Hove	2010	
23	Glasgow	January 2020	3	Warrington	July 2005	
22	Antwerp	January 2020	2	Stockholm	2004	
21	Barcelona	December 2019	1	Graz	September 1992	



### **30km/h Speed Limit in Cities (1/2)** <u>Yannis, G., & Michelaraki, E. (2024). Review of City-Wide 30 km/h Speed Limit</u> <u>Benefits in Europe Sustainability, 16(11), 4382</u>

City-wide 30km/h speed limits led to average reduction in (meta-analyses of 70 studies from 17 cities):



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

Yannis, G., & Michelaraki, E. (2024). Review of City-Wide 30 km/h Speed Limit

Benefits in Europe Sustainability, 16(11), 4382

#### **Fatalities:**

63% and 55% reduction in Bristol and Brussels

Serious injuries:

72% and 50% reduction in Münster and Grenoble Road crashes:

 $\sim 16\%$  and 10% reduction in

46% and 40% reduction in London and Paris

**Emissions:** 

> 29% and 25% reduction in Berlin and Graz

Noise:

3 db reduction in Paris and Berlin

**Energy:** 

> 12% and 10% reduction in Münster and Brussels

**Traffic congestion:** 

> 9% and 2% reduction in Grenoble and Bilbao`



City	Safety			Emissi	ons	Energy	Traffic
Oity	Crashes	Fatalities	Injuries	CO <sub>2</sub> , NO <sub>x</sub> , PM	Noise	Fuel	Congestion
Bologna	-38%	-33%	-10%	-23%			-3%
Zurich	-16%	-25%	-20%		-1.7 dB		
Paris	-40%		-25%		-3 dB		
Münster			-72%	$\downarrow$	$\downarrow$	-12%	
Brussels	-10%	-55%	-37%		-2.5 dB	-10%	
Glasgow		-31%					
Helsinki	-9%		-42%				
Bilbao	-28%			-19%			-2%
Berlin	-10%			-29%	-3 dB		
London	-46%	<b>-25%</b>	-25%	-10%			
Grenoble	$\downarrow$	$\downarrow$	-50%				-9%
Edinburgh	-38%	-23%	-33%	-8%			-2.4%
Bristol		-63%					
Brighton			-45%				
Hove			-45%				
Warrington			-43%				
Graz	-12%		-20%	-25%	-2.5 dB		

\* grey colour indicates that the impact of the implementation of 30 km/h in this city has not been examined yet \*\* the symbol 1 indicates that the quantitative effect of this measure has not been provided; only qualitative impact is given

\*\*\* these reductions refer to a comparison period before and after the implementation of 30 km/h speed limits which is not the same among all cities examined

## **Cost Benefit Analysis Results – Athens (1/2)**

Roussou, S., Petraki, V., Deliali, K., Kontaxi, A. & Yannis, G. (2024). Cost benefit analysis of reducing speed limits in Athens to 30 Km/h. Case Studies on Transport Policy, 101289, October 2024

A Cost Benefit Analysis for the City of Athens was implemented till the year 2030, including:

- Costs (implementation and operational)
- Benefits (road crashes, fuel consumption, emissions):
- In the case of the reduction of the speed limit to 30 km/h in the city center, the society benefits from a reduction in road casualties amount to €130 million over a 10-year period





## Cost Benefit Analysis Results – Athens (1/2)

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- It is estimated that city-wide 30 km/h speed limits on the road network of City of Athens will save lives annually:
  - ✓ 33 fatalities
  - ✓ 83 seriously injured and 830 slightly injured
  - ✓ fuel consumption by 48 million litres
  - 65.5 thousand tonnes of CO<sub>2</sub>, NO<sub>X</sub> και PM
- > The traffic congestion change is negligible
- The indirect benefits of increasing the use of Public Transport and active travel are also significant





## Cost Benefit Analysis Results – Greece

It is estimated that city-wide 30 km/h speed limits on the road network of all cities in Greece (with the exception of major axes) will save lives annually:

- > 104 fatalities (out of 635 in all of Greece)
- 123 seriously injured (out of 636 in all of Greece)
- 783 slightly injured (out of 12,533 in all of Greece)





## City-wide 30km/h speed limits: the road safety catalyser

The since-long waited single road safety measure with such a significant improvement at such a low cost

> Such a high societal impact for such a small change in our habits

More than a simple new traffic rule: a catalyser for a new road safety culture



#### More and more European cities adopting lower speed limits



The reduction of speed limits in cities (30km/h) leads to a **significant reduction** in road crashes and casualties, energy consumption and air pollution







Public acceptance of speed limits reduction tends to improve over time, especially by pedestrians, cyclists and Public Transport passengers

# Accompanying Measures





## **30 Marathons Campaign**

- The discussion and introduction of city-wide 30 km/h speed limit faces strong reactions and rigid inertia, whereas supporters' voices are often weak and inefficient resulting in hesitant politicians and Authorities
- After more than 30 years of dedication to road safety science and several Marathon races, Prof. George Yannis decided to step beyond the traditional scientific pleas and combine both passions for a cause: to run 30 Marathons in 30 months to actively promote the adoption of city-wide 30km/h speed limit in as many cities as possible worldwide







### **George - 30 Marathons - 30 Months**





Nicosia - Dec 2023



Utrecht - May 2024



Torhout - Jun 2024

Geo rge



Sevilla - Feb 2024

Paris - Aug 2024

Warsaw - Sep 2024





Barcelona - Mar 2024



Munich - Oct 2024



Zurich - Apr 2024



Athens - Nov 2024



## **Campaign Social Impact**

An Integrated Communication Policy with Strong Global Impact

- 26 cities with Marathon finish
- 3 papers in scientific journals
- 20 presentations in conferences/webinars
- 16 interviews in the electronic media
- 10 newspaper/magazine articles
- 40 social media posts
- 48 republished posts from scientific organisations and institutions (with 80.000+ post impressions)
- 400.000+ pageviews per year
- 100.000+ global audience at social media
- 10 International Organisations Allied



# Thank you for your attention!



#### 27-28 NOVEMBER 2024

**KARLSRUHE (DE)** 

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Baden-Württemberg Ministry of Transport

