

# Urban Speed



The International Federation of Pedestrians fully endorses the 2020 Stockholm Declaration, mandating **“a maximum road travel speed of 30 km/h in areas where vulnerable road users and vehicles mix”**.

As these traffic mixes occur everywhere in all urban areas, the full urban area should have a default maximum speed of 30 km/h or 20mph. Higher maximum speeds could be accepted on a limited number of well-defined major roads provided that **“strong evidence exists that higher speeds are safe”** on those specific roads. On the other hand, many urban streets should be designed for 20 km/h, which offers an additional important step forward towards life quality for residents and visitors, young and old, or even walking speeds (for specific areas).

We urge that this approach should be legislated as a national law.

Although redesigning the streetscape often is the most effective way to achieve speed compliance, the costs involved should never be a reason to delay implementation. As such, deployment of intermediate fast and cheap design for temporary traffic calming is highly welcomed.

## Speed kills

This is a consequence of basic physics. Higher speeds increase the distance travelled before the brakes are engaged (reaction distance = reaction time x speed), and increase the impact speed. The braking distance itself also increases quickly with the speed. Extensive research shows the higher the impact speed, the higher the probability of walkers and bike riders being killed or seriously injured.

Calming urban areas to 20 and 30 km/hr opens up a whole new world of quality of life and attractiveness of the area. To live, to move, to shop, to visit, to enjoy, to be

## Case study 1 - Brussels

A 161 km<sup>2</sup> area with 1.2 million inhabitants got default 30 km/hr on Jan 1, 2021.

Speed reductions of 7-19% were found, dependent on regimen, illustrating the value of a clear message (the 30 km/h default approach) and a clear political choice.

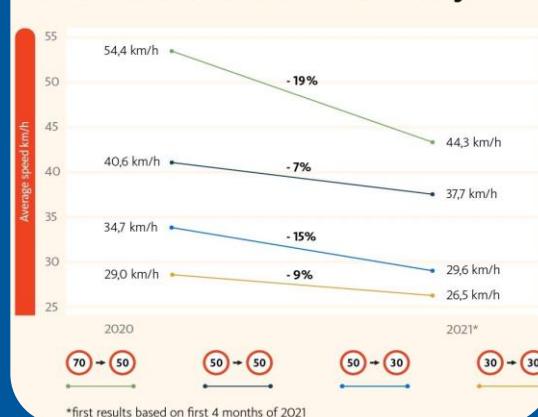
A significant downward tendency of crashes and casualties was observed, although a little more time might be needed to confirm.

Studies also showed that average trip time did not increase.

[www.mobilite-mobiliteit.brussels/en/node/1401](http://www.mobilite-mobiliteit.brussels/en/node/1401)



### Ville 30: towards a safer city



## Why 30?

Streets are for everyone. Freedom of choice is important, also for our mobility. We want our kids to be able to walk or cycle independently to school or friends, we want our elderly to safely enjoy the city, go have a coffee, meet with friends. And we want everyone to have a range of movement options to select from based on their needs. Those options include walking, bike riding & micro-mobility, public transport, and driving

Many cities around the world have understood that traffic calming is the ideal way to allow this freedom of modal choice and have been implementing 30 km/h zones for decades.

- Graz, Austria was one of the first cities in the world to introduce the 30 km/h speed limit on most streets.
- Germany started in the 1980's with the introduction of 30km/h speed limits in residential areas (“Tempo 30 zones”). The approach was to have traffic calming measures implemented across larger areas, as measures implemented on single streets tended to divert traffic to other local streets. Street design changes such as drive lane narrowing when entering the zones (“gates”), staggering, speed humps etcetera are used.
- Cities like Helsinki, Oslo or Brussels started with 30 km/h zones in residential areas but with time extended that speed limit to central zones and nowadays have moved to a default speed of 30 in a large area with the exception of some thoroughfares.
- More recently Pontevedra and Bilbao, Spain expanded the 30 km/h approach to all streets, without exceptions.

Change is often difficult. But rewarding. A common sequence of events seen in many cities where bold politicians took well-founded but far-reaching decisions on traffic speed and public space allocation is

- first a fierce opposition with doomsday scenarios prior to implementation,
- followed by some unease when adapting to the changes implemented and
- finishing with a gradually broader support, both by inhabitants and business owners, and requests from adjacent areas to implement similar changes.

Examples are Stockholm, New York City, Copenhagen, ...

Apart from the road safety aspects, lower urban speeds offer collateral advantages in the area of improved quality-of-life in public space: better accessibility, reduction of noise, modal shift linked to the more inviting nature of the streets, better air quality....

## Case study 2 - Bilbao

After evaluation of the results after a few years of having 30km/h as default in the whole city, with the exception of the main roads (50km/h), Bilbao decided to even put all their main roads also at 30 km/h.

Since the summer of 2018, 87% of Bilbao's streets were converted to 30km/h, and since September 2020, 100% of Bilbao's roads have a maximum speed of 30 km/h.

City bus drivers, initially very critical to the change, became supportive after implementation. Their job become much less stressful.

## Stockholm Declaration:

Focus on speed management, including the strengthening of law enforcement to prevent speeding and mandate **a maximum road travel speed of 30 km/h in areas where vulnerable road users and vehicles mix** in a frequent and planned manner, except where **strong evidence exists that higher speeds are safe**, noting that efforts to reduce speed in general will have a beneficial impact on air quality and climate change as well as being vital to reduce road traffic deaths and injuries;

## Why do small speed differences matter so much?

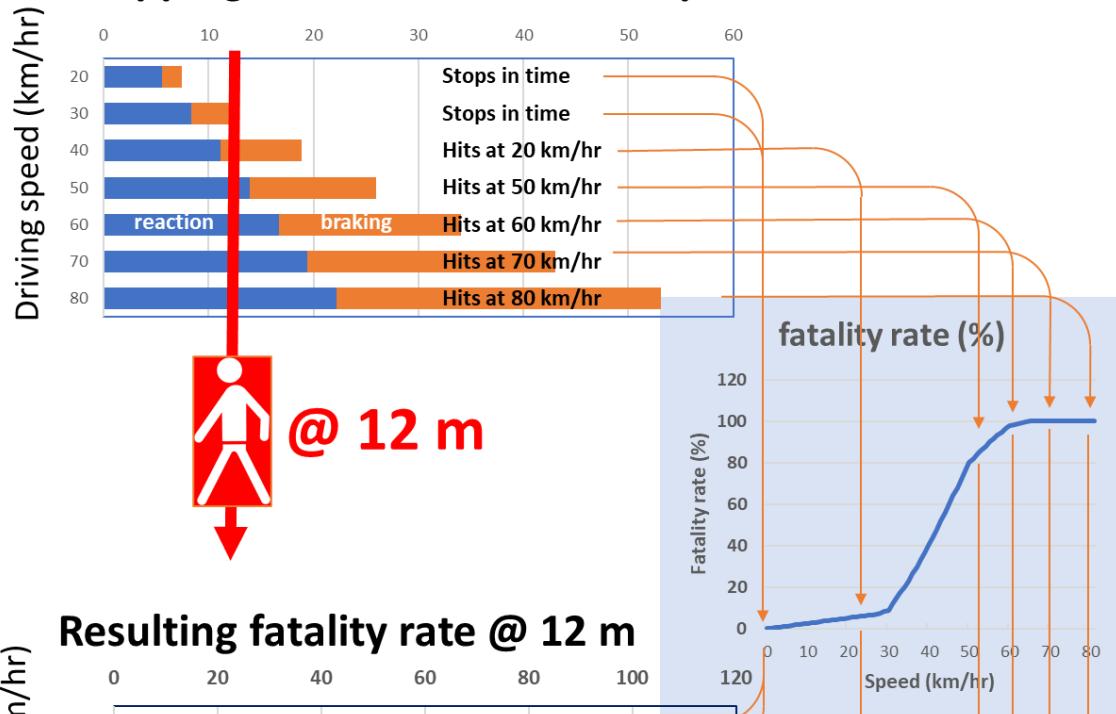
It might seem contra-intuitive that small increments in driving speed can have such a large effect on fatality rate for pedestrians and cyclists. But it is pure evidence.

The below set of graphs start with the stopping distance in function of the driving speed (separated in reaction distance (1 sec) and braking distance) and provides the calculated collision speed with a pedestrian observed at a distance of 12 meter. Using this collision speed, the fatality rate is deduced from scientific data. The bottom graph brings those two together and represents the fatality rate in function of the driving speed.

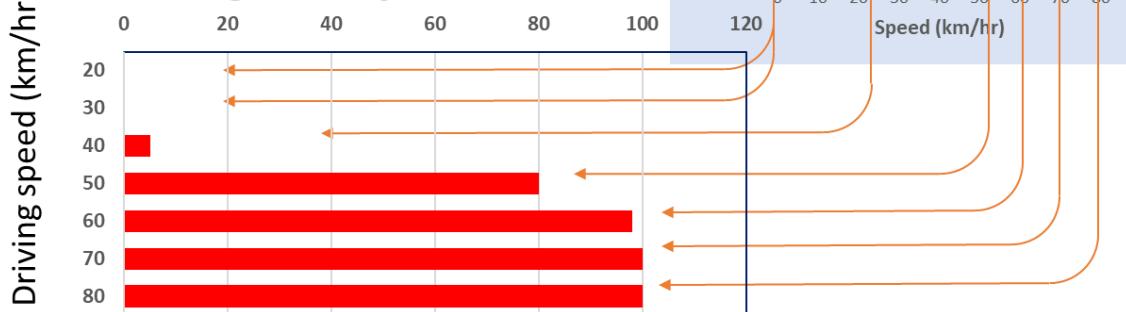
A car driving at up to 30 km/hr would stop in time without touching the pedestrian. At only 10 km faster, the impact speed would be 20 km/hr, corresponding to a fatality rate of 5%. But at 50 km/hr, a default speed in still too many cities, the fatality rate jumps already to 80%.

Reaction time can be much longer if the driver is under influence of alcohol or drugs. Also, on wet roads or in more complicated traffic situations, these impact speeds and fatality rates do increase significantly.

### Stopping distance at different speeds



### Resulting fatality rate @ 12 m



Calculated with reaction time of 1 sec and deceleration speed of 8 m/s<sup>2</sup> (dry surface)  
Fatality rate according to Wrangborg et al, 2005

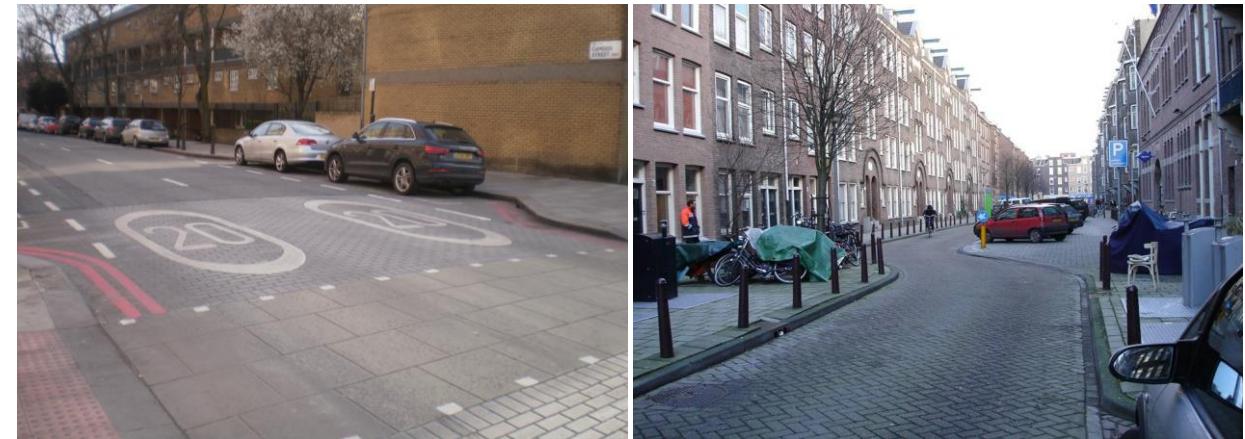
### Tools and references

- [#Streets for life & #Love30 campaign letter](#)
- [www.20splenty.org](http://www.20splenty.org)
- [Safe Urban Speeds \(Victoria Walks\)](#)
- [20mph policy \(livingstreets, UK\)](#)
- [Tempo 30 \(walk-space, Austria\)](#)
- [Default 30 in urban areas \(Voetgangersbeweging, Belgium\)](#)
- [Les villes en zone 30 \(Tous à Pied, Belgium\)](#)
- [Save lives with 30 \(Fuss EV, Germany\)](#)

## Different levels of infrastructure adaptations



A gate to make drivers aware that they are entering a different zone can be made at very low cost (and add some green life to the street). Source Jenny Leuba (left) & johanna.be (right)

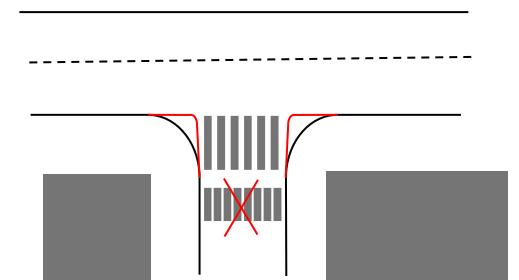


Large 20mph signs on the tarmac, street narrowing and a different surface to make vehicle drivers aware that they are entering a different speed zone. source 20splenty.org

Speed reducing chicanes can be relatively cheaply made with some plantations, or be part of a more comprehensive rework of the whole streetscape. source Mario Alves



Continuous Sidewalks are a easy and effective way to reduce turning speeds protect neighborhoods. Implementing them we are creating a comfortable path for pedestrians walking along the main road and, at the same times, creating a door to a local street. source Mario Alves



A change in corner radii can be made very simple with paint and a few blocks, or more structurally. They reduce speed, shorten crossing distance and respect the pedestrian desire lines.

Position paper launched during:

