



WHY 30km/h ?



Reducing vehicles speeds in urban and residential areas to around 30km/h is a key strategy for reducing road casualties, increasing modal shift to walking and cycling as well as reducing noise and emissions.

Introduction:

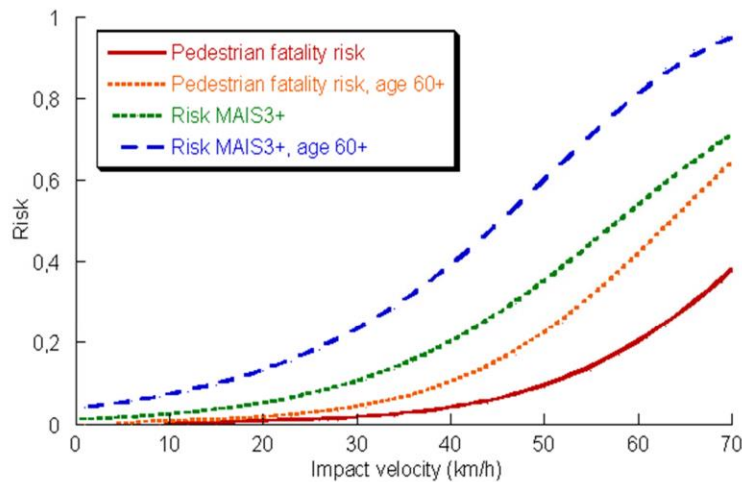
The advocacy of a 30km/h speed limit for all residential and urban roads would be a significant contribution to making EU streets safer and increasing the quality of life for its citizens. It would communicate a clear and unequivocal message that the protection of life and equality of transport opportunity are the foundations on which we build our transport policies.

Managing speed in urban areas is a priority. 30 km/h should be the maximum speed in residential areas.(OECD proposals for governments)

Speeding vehicles are a particularly dangerous risk factor for pedestrians. It is estimated that there is an eightfold increase in the probability of a pedestrian being killed, as the speed of impact with a car increases from 30–50 km/h (Racioppi, et al., 2004).

Additionally, the positive effects on health and the environment would increase and the external costs of transport would decrease in general.

The risk of injury MAIS 3+, and fatality, related to impact velocity, for different age groups. From Stigson and Kullgren 2010.



Advocacy

Sweden – Vision Zero

Vision Zero as developed in Sweden focuses on human impacts to determine speed limits on the road network. With the finding that pedestrians and other vulnerable road users may well not survive if hit by a car going faster than 30 km/h this led to the conclusion that roads where there was a mixture of pedestrians and cars should not have a speed limit higher than 30 km/h.

Across the European Union it is advised that in urban areas speed limits should not exceed 50 km/h with 30 km/h zones promoted in areas where vulnerable road users (including children) are particularly at risk, where they cannot be separated from motor vehicles (EU Parliament 2011):

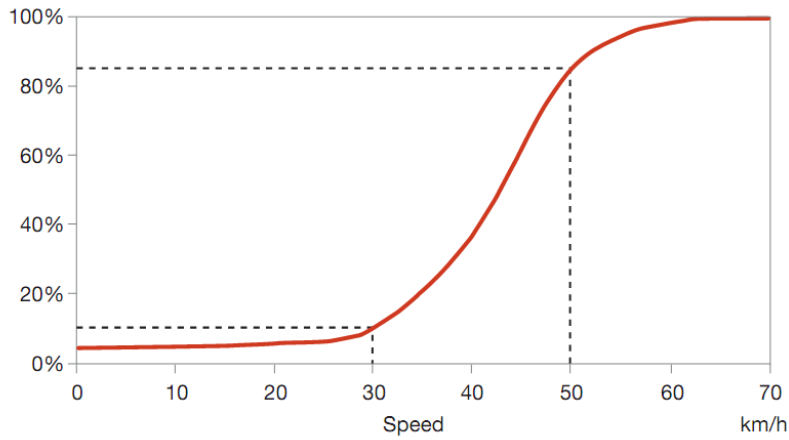
*“Strongly recommends the responsible authorities to **introduce speed limits of 30 km/h in residential areas** and on **all one-lane roads in urban areas** which have no separate cycle lane, with a view to protecting vulnerable road users more effectively;”*

(resolution of 27 September 2011 on European road safety 2011-2020)

If hit at 50 km/h there is a 70% chance that a pedestrian would die. If the impact speed is reduced to 30 km/h the chance of death is reduced to 10% (see Figure 6).

Research shows that these lower limits, when accompanied by traffic-calming measures, are very effective at reducing “accidents” and injuries, with reductions of up to two thirds having been demonstrated (OECD/ECMT, 2006).

Figure 6: Probability of a fatality from being struck by a vehicle

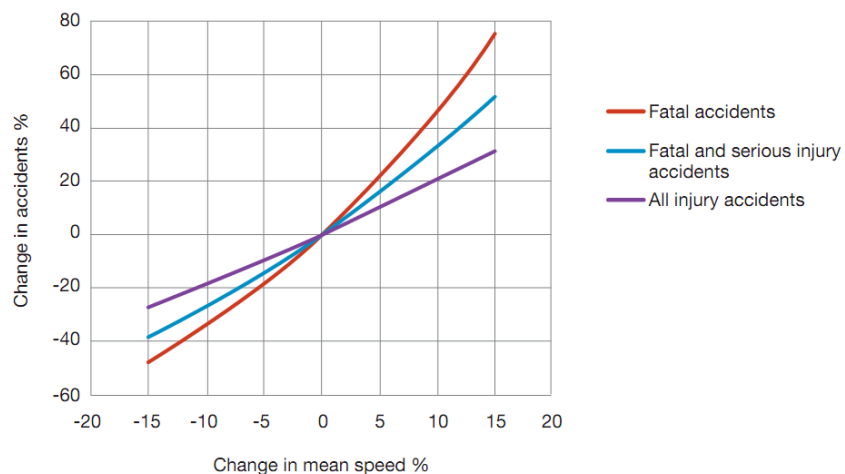


Source: OECD/ECMT (2006)

This approach sets a new “societal norm” for vehicle speeds where people live, work, shop, play and go to school. Results have been significant.

In view of the relation between collision speed and the probability of a crash being fatal (*Figure 4*), any reduction of collision speed will greatly reduce that probability. Crashes with collision speeds below 30 km/h usually end well (SWOV Fact sheet)

Figure 4: Nilsson's 'Power Model'



Source: Nilsson (2004)

The vision is: a total 30 km/h speed limit in villages and towns unless another speed is set by their local authorities. Changing the speed limit to 30km/h is simple and efficient. Many 30km/h zones throughout Europe have proven to work at reducing casualties, noise, air pollution and CO2 emissions, and they **improve traffic flow**. Environmentally friendlier

modes become more attractive, with further benefits from active lifestyles and reduced congestion.

Slower speeds also improve access, especially for **those with restricted mobility**, vision, hearing or mental health. The ability to get around safely and affordably increases opportunities for work and friendship. With few, slow car movements people enjoy the street scene.

Health promoting activities like walking, cycling and being outdoors are encouraged as speeds reduce. This builds a positive spiral of increased activity bringing reduced illness from diseases associated with obesity, heart disease and stress.

The key prerequisite for sustainable travel is creating the conditions in which walking and cycling are more attractive than car use. Methods that pull people toward active travel include increasing the percentage of the local road network where speeds are limited e.g. to 20mph (30km/h)

In Europe 30km/h speed limits are already essential to sustainable travel policies in Denmark, Belgium, Germany, Netherlands, Norway and Sweden and more and more countries, towns and villages are following

“People can travel with less fear and greater ease.” explains Rod King, Founder of 20’s Plenty for Us, the campaign for lower limits in the United Kingdom, “20mph improves people’s quality of life”. In the UK walking and cycling levels increase wherever 20 mph (30 km/h) limits are introduced. This may also result in better conditions for the public transport – as demand increases – and more financial support for pedestrian and cycle traffic infrastructures.”

In residential areas, which have a living, shopping, or work function, **through traffic is discouraged** by setting a speed limit of 30 km/h, and by speed reducing measures such as speed humps, road narrowing.

Sustainable Safety (NL)

According to Sustainable Safety, residential areas have a speed limit of 30 km/h because collisions at speeds lower than 30 km/h rarely result in fatal crashes. Slow traffic (pedestrians, cyclists, and (light) moped riders) and motor vehicles can mix safely at this maximum speed. The quality of life also improves (noise level, ease of crossing the road, level of exhaust fumes).

One of the Sustainable Safety principles has been derived from this: where pedestrians and motorised vehicles meet, driving speeds of the latter must be reduced to 30 km/h.

A Dutch evaluation of the effectiveness of these zones indicated that the introduction of these zones led to a reduction of about 10% in the number of fatalities per km road length and a reduction of 60% in the number of in-patients per km road length (Wegman et al, 2005).



self explaining panel in Luxembourg

Far from being anti-motorist, 30 km/h limits give drivers many advantages. That's why more than 70% of drivers believe this limit is plenty on residential streets: 10 good reasons

1) Everyone is more likely to notice hazards and stop in a timely way to avoid a crash. Injuries are less serious. Fear of road danger reduces, increasing the trips by sustainable modes like walking, cycling and public transport. Children need fewer escort trips with parents. Motorized traffic reduces and this further lowers road danger.

2) Fuel use, CO₂ and costs fall 12%: German 30km/h zones led to car drivers changing gear 12% less often, braking 14% less often and using 12% less fuel.

3) Less Congestion. At 30km/h more cars occupy the same road space due to shorter gaps between them, easing traffic 'flow'. Junctions are more efficient as drivers can merge into shorter gaps. Less risk encourages sustainable travel and public transport.

4) Sociable: Those whose roads are not dominated by traffic have more local friends and known neighbors. Children have more local playmates.

5) Quieter Compared to 50 km/h, 30 means 3 decibels less traffic noise. People can more easily listen to each other and we all sleep better.

6) Prevents road injury and disability: Implementing 30 km/h limits prevents road injury and disability. It helps the less able to get about. 30 km/h less children are severely injured when hit by a car

7) More cycling and walking: Slowing speed limits from 50km/h to 30km/h contributes to increasing cycling and walking by up to 12%. 30 km/h increases physical activity and reduces traffic.

9) More gaps to cross especially for the most vulnerable: Consider also that young children and elderly cannot walk as quickly as adults. Those with a pushchair, wheelchair, mobility scooter, shopping trolley or walking aid are limited in their speed. At locations without pedestrian crossings, pedestrians need to identify a gap in the traffic to be able to cross. To cross two lanes of traffic most pedestrians will accept a 4 to 6 second gap but some people need gaps of 10 to 12 seconds due to limited mobility.

9) Less parents' taxi duty. Road danger reduction brings safer independent child travel, improves their life skills, and frees up parents for more productive activities than driving.

10) Society benefits. Fewer road victims frees up facilities for other health needs. Fewer work days are lost. Widow, disability benefit and care savings. Active travel cuts obesity and heart disease. Inequalities reduce as less children die. Quality of life rises.

Over 75% of people say 20mph is the right speed limit for residential streets. It's recognised as "best practice" where there are pedestrians and cyclists such as town centres, shops, workplaces or schools. Children are better protected if 20mph limits surround nurseries, parks and play areas. Quality of life and 'liveability' improves.

Resumee:

What is the safety effect of a 30 km/h area?

The fact that 30 km/h areas have a positive road safety effect has been established in many Dutch and foreign studies. The average number of injury crashes decreases by about 25% when a residential area with a speed limit of 50 km/h is redesigned as a Zone 30 (Elvik, 2001);

The majority of pedestrian casualties occur in built up areas. Pedal cyclists are also vulnerable in built up areas. Speed significantly increases the chance of being injured in a collision. Studies which compare injury severity with vehicle speed show that accidents at speeds above 30km/h are more likely to result in severe injuries, rather than slight injuries. The risk of being fatally injured increases too, a study in Sweden concluded that the risk of fatality injury at 50km/h is twice as high as at 40km/h and five times as high as 30km/h. Speed management including the use and enforcement of speed limits is a practical and established way of reducing injuries, and therefore, urban 30km/h zones present a way of significantly reducing the likelihood of a serious injury.

There is international evidence showing a reduction in road casualties from 50km/h residential areas to 30km/h

The first widespread evaluation of 20mph (miles per hour) zones in the UK was carried out by TRL in 1996^{xi}. It found that injury accidents were reduced by 60%, and child injury accidents were reduced by 67%.

In the 20mph zones in Hull, there was a decrease in total accidents of 56% and in fatal and serious injuries of 90%. The biggest reductions were pedestrian casualties, which fell by

54%, child casualties which dropped by 54% and child pedestrian casualties fell by 74%.

Sources:

National Centre for Social Research, British Social Attitudes: the 22nd Report, 2005

Swov Factsheet

OECD research Walking, Urban Space and Health December 2012

Eurosafe: Policy Briefing

<http://www.20splentyforus.org.uk/>

<http://en.30kmh.eu/>

Vision Zero / Sweden)

Sustainable Safety (NL)