20mph Zone - Pannal Ash Safe Streets

We are applying to the council for a 20mph zone with supporting infrastructure and safe crossings around the four schools in the Pannal Ash area, and extending down Cold Bath Road to meet the existing 20mph limit outside Western Primary.

Background and consultation

We are neighbours, living in the 20mph section of Pannal Ash Road. In 2020 we became worried about the speed of traffic on our road, following the dysfunction and removal of the vehicle activated signs. After the signs stopped working, compliance with the 20mph speed limit on Pannal Ash Road became extremely poor (see speed surveys undertaken by NYCC on 7 days in October 2020). Near Pannal Ash Drive, only 11.88% of cars were driving at 20 or below. 12% of cars were driving in the 30-50mph range, with maximum speed recorded as 66.6 mph. We began talking to other neighbours and found that all of them were worried about speed and volume of traffic and about road safety. People were also worried about the erosion of the area's special character, as it was becoming noisier and more polluted due to increased traffic.

In 2021 we set up a petition to further gauge local opinion: 'Enforce the 20mph speed limit on Pannal Ash Road'. 184 people signed and, importantly, the comments received made it clear that **people had serious concerns about their safety, particularly the safety of children, whilst using the *whole* network of roads around the four schools in the Pannal Ash area** (Rossett, Rossett Acre, Harrogate Grammar and Ashville). Clearly, the problem extended further than Pannal Ash Road itself. We felt a responsibility to do something to improve the situation for school children, families, residents and others using the area and shifted our focus to the wider area around the schools, to what we have termed the Pannal Ash Zone. We discovered that the council had no plans to re-instate the 20mph Vehicle Activated Signs on Pannal Ash Road, or to enforce the 20mph speed limit in any other way. There didn't appear to be any plan to look at road safety in the area surrounding the schools in a holistic fashion, or any urgency to mitigate the increased pressure on the roads brought about by the development of new housing to the West of Harrogate.

In order to better understand people's needs, we engaged with headteachers at Harrogate Grammar, Rossett High and Rossett Acre Primary and staff at Ashville, as well as: local councillors Jim Clark and Mike Schofield, Andrew Jones MP, North Yorkshire Police, the Local Highways Area office (NYCC), Zero Carbon Harrogate, Harrogate District Cycling Action Group, Harlow and Pannal Ash Resident's Association, Living Streets and 20's Plenty, as well as more local people, parents and the lollipop man on Pannal Ash Road. Our updated petition 'Pannal Ash Safe Streets Zone' https://www.ipetitions.com/petition/pannal-ash-safe-streets-zone has been signed by over 330 people at the time of writing, with comments showing the strong level of support and concern. We have included a selection of these comments in the attached document '*Comments from Residents – Pannal Ash Zone*'. All comments can be viewed on the i-petition. We presented the 20mph zone plan to Harlow and Pannal Ash Residents Association, and they were highly supportive. After the meeting we had many offers of help, in addition to those that can be seen in the petition. It also became clear that extending the 20mph zone to link to the 20mph limit outside Western Primary would benefit its 495 children, by improving compliance with that limit.

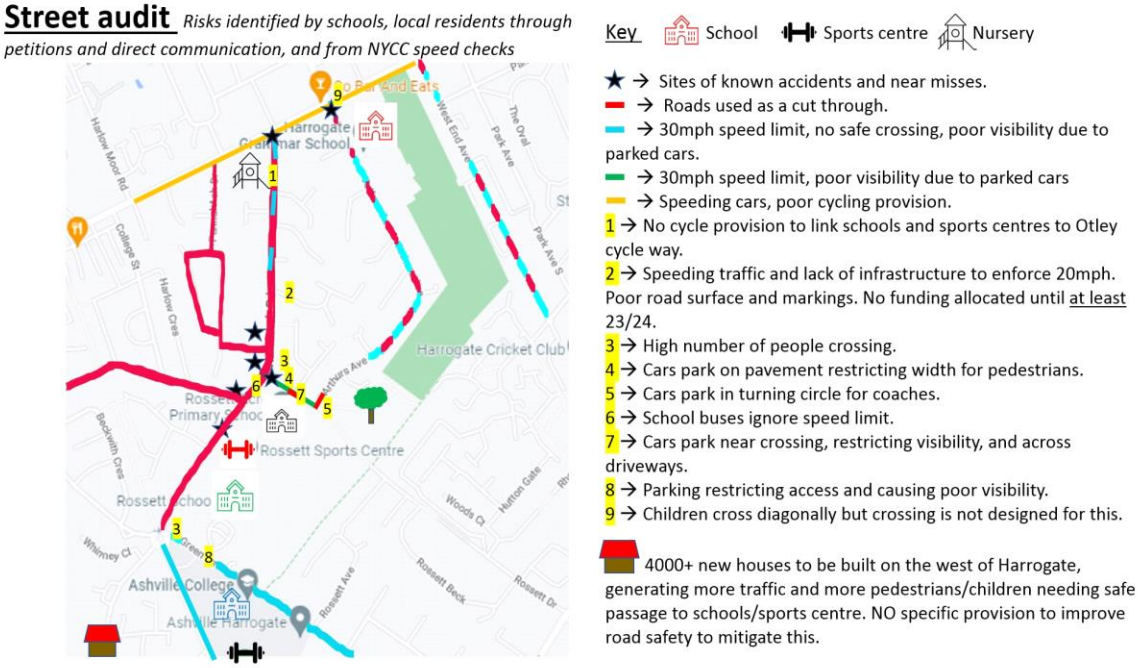
We found that many issues around poor road safety have been raised with the MP and council over the years by the headteachers of the schools as well as by residents. There have been

known accidents, injuries and near misses, mostly involving school children and cyclists. The area is used by **4995 children** getting to and from the five schools daily during term time, and at all times, including evenings and weekends, by those using Ashville Sports Centre (550+members), Rossett Sports Centre, Rossett Further Education facilities (3300 students), Busy Bees Nursery and Rossett Nature Reserve. Many of the school children also have younger siblings, who also make the journeys to and from school each day – increasing the number of children affected.

Shared concerns – a Street Audit

Major shared areas of concern on the network of roads around the schools, highlighted through our consultation with parents, residents, schools and local groups are as follows (see Street Audit map):

- Children's safety.
- Speed and volume of traffic.
- Lack of safe crossing places, particularly for children using the streets to get to and from schools at times when traffic is heaviest.
- The fact that the area is losing its sense of place and increasingly being used as a cut through to and from the town centre.
- Poor visibility and restricted pavement width due to parked cars (particularly during school drop-offs/pick-ups).
- Poor road surfacing increasing the likelihood of accidents.
- Increased housing provision (4000+new houses on the west of Harrogate) generating more traffic and more pedestrians/children needing safe passage to schools, the sports centres and the nature reserve. NO specific provision put in place by the council to mitigate the increased housing and traffic.
- Lack of provision for safe cycling.

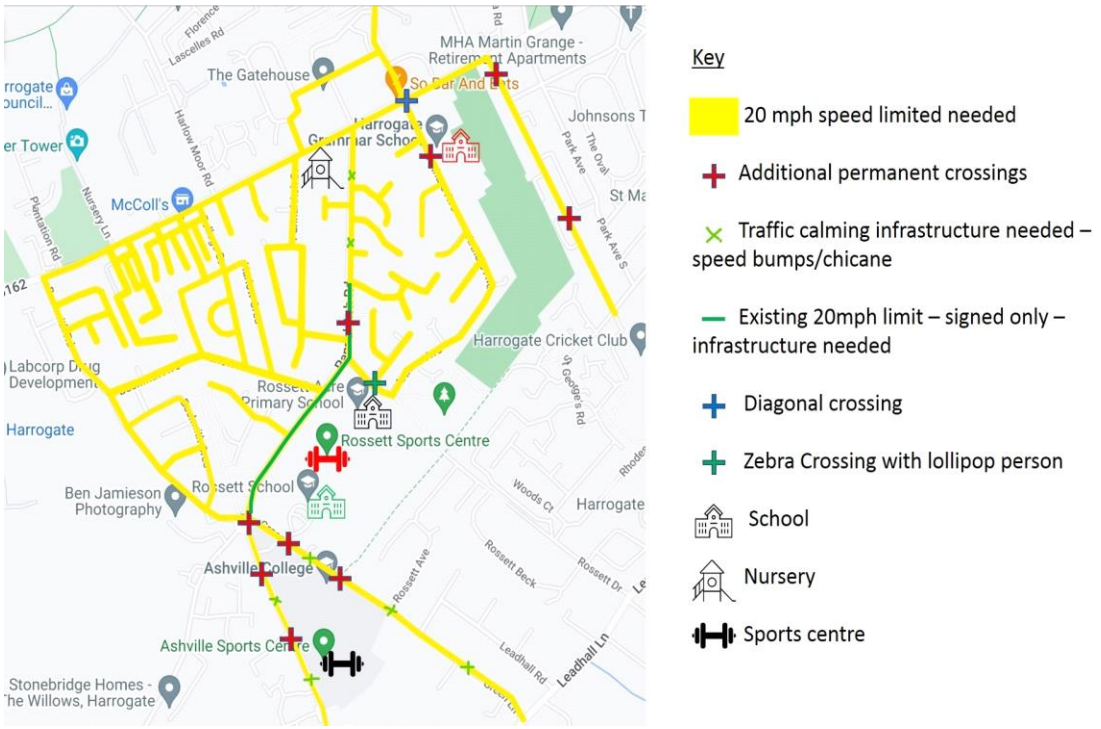


Solution - a 20 mph Zone with infrastructure

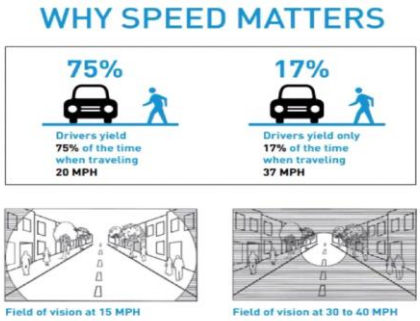
Having listened to what people and groups in the area need, we are asking the council for a solution that would help to meet those needs: **A 20mph zone around the four Pannal Ash Zone schools, and linking with the 20mph limit outside Western Primary, with infrastructure to support it.** Such infrastructure would include safe crossing points, dedicated cycle lanes, signage and, where necessary, chicanes or speed bumps to bring speeds down, as detailed on the map below. Note that cycle lanes have not been included on the map, but safe cycle routes to the schools and sports centres are essential in order to promote active travel. Harrogate District Cycle Action Group are best placed to provide detail on design of cycle routes.

This solution would:

- make the area safer and more usable for EVERYBODY,
- make active travel safer and more appealing,
- keep our area SPECIAL and stop it becoming a cut-through,
- promote community and make the Pannal Ash Zone streets welcoming,
- enable more people to make journeys without their cars, thus improving people's health, improving air quality, reducing noise pollution and decreasing carbon emissions.



Why 20mph?



It is much safer for pedestrians and cyclists if cars drive at 20mph. Roadwise UK state that the mortality rate if hit by a car travelling at 20mph is 2.5%. This increases to 20% at 30 mph, 50% at 35 mph and 90% at 40mph. This graphic shows how a driver's ability to stop, and field of vision, change at different speeds. Evidence from elsewhere in the country where 20mph limits have been introduced show that they encourage more considerate driving, leading to safer streets for all road users, including motorists, cyclists and pedestrians. In all cases, lower speeds have been shown to reduce the risk and severity of road collisions. For example, detailed analysis over 20 years across London found a significant reduction in risk and severity of casualties in the roads that had switched to 20mph. This reduction is mirrored in other other UK authority areas where 20mph has been introduced, for example: Calderdale - 30-40% fewer casualties; Bath - 23% fewer casualties; Cheshire West and Chester - 43% fewer casualties and Edinburgh - 33% fewer casualties (20's Plenty collated data). Please see also the results of studies in Edinburgh, Bristol and Belfast, set out in the section below entitled '*What's happening elsewhere*'.

Reducing traffic speed helps make people feel more confident about being on their local streets and enables children and the elderly to travel independently and safely. Calmer road speeds also help to make walking and cycling more attractive options, leading to less traffic congestion, better health, less noise, more social interaction and stronger communities.

Why create a zone?

It has been shown in other parts of the country that a 20mph zone is more likely than an isolated 20mph limit to lead to a change of behaviour, with safer and more considerate driving practices. The Royal Society for the Prevention of Accidents (*https://www.rospa.com/rospaweb/docs/advice-services/road-safety/drivers/20-mph-zone-factsheet.pdf*) state that 20mph zones are an effective way of preventing injuries on the road and that although 20mph limits have generally been positive at reducing traffic speeds, they do not reduce speeds as much as zones. Many studies have demonstrated this. For example, a major review of road casualties in London between 1986 and 2006 was published in the British Medical Journal in 2009 (https://doi.org/10.1136/bmj.b4469). It demonstrated that 20mph zones reduced the number of casualties by over 40% (41.9%). This reduction was more significant where children were concerned, reduced by half (50.2%) fatal or serious injuries to children. There was a smaller reduction in casualties among cyclists than any of the other major groups of road users studied, with a reduction of 16.9%.

Why not revert to 30mph and rely on police speed checks?

The council's speed checks on Pannal Ash Road itself showed that when there was a 30mph speed limit (with the facility for police speed checks), the mean speed of cars on the road was 31.5-38.3 mph. This is mirrored in other areas, with speeds on straight roads in urban areas

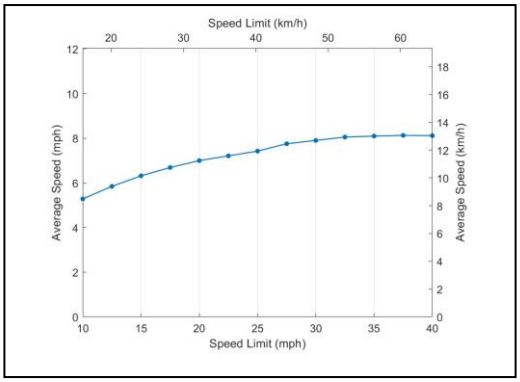
generally much higher than the actual speed limit, unless there's an overt police presence (which with limited police resources is unlikely to be the case on most days of the year). Thus, reversion to 30mph is not a safe, viable or responsible option. Instead, the Council and Police should consider allowing speed checks in 20mph areas, thus allowing better enforcement of 20mph limits.

Will 20mph slow overall journey time?

20mph speed limits do not significantly slow journey times, and do result in better flow of traffic, and a less frustrating driving experience. In addition, they lead to more people choosing active travel for short journeys, and so reduce the amount of traffic roads.

Research from Bristol (https://www.bristol20mph.co.uk), where the City Council first piloted eight 20mph zones, and then rolled out 20mph to much of the city, showed that there was a negligible average increase in journey times of only 10 seconds per mile in the central areas where 20mph zones were introduced. The lower speed limit encouraged drivers to shift to walking or cycling. This shift led to fewer vehicles on the road and a reduction in congestion and therefore in many cases a decreased journey time. Their conclusion was that 20 mph will not significantly increase journey times and by easing traffic flow, may actually reduce some journey times.

In a recent study, engineering consultants, Future Transport (https://futuretransport.info/urban-traffic-research/) modelled the effect on journey times of reducing the speed limit from 30mph to 15mph in urban areas. They found that the difference between everyone driving to a 30mph maximum speed and everyone driving to a 15mph maximum speed is about 1mph in difference in average speed. This is because a significant proportion of the journey time is spent stationary in traffic, and because if every vehicle drives faster or slower, each vehicle still arrives in the same position in the queue at the next set of traffic lights, so effect of speed limit on journey time is minimal.



What effect does 20mph have on emissions?

Speed limit reductions reduce climate-warming CO2 emissions and have a significant effect on public health through air quality improvements, by reducing levels of harmful NOx and particulates emitted by cars.

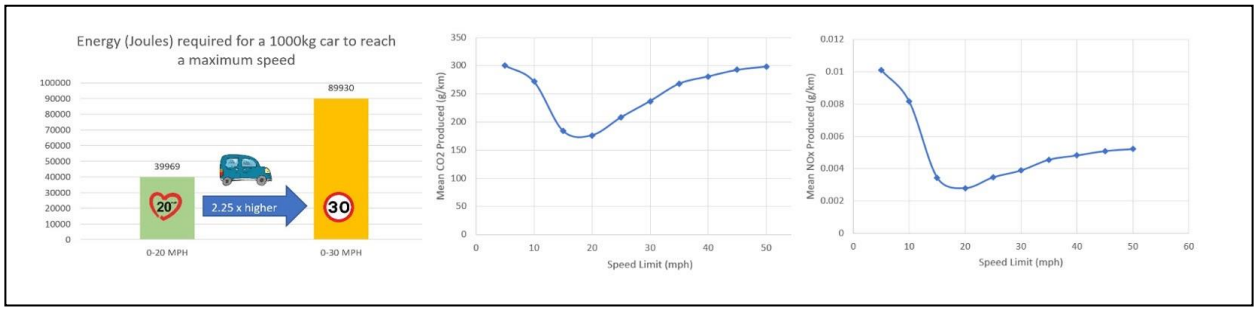
Reduction to 20mph speed limits reduces carbon dioxide (CO2) and Nitrous Oxide & Nitrogen Dioxide (NOx) emissions. Recent research (https://futuretransport.info/urban-traffic-research/) by engineering consultants, Future Transport, models the impact of capping speeds at 20mph vs. 30mph. This “real life” modelling, which takes account of the stop/start nature of urban traffic, showed that the effects of maximum speed on CO2 and NOx emissions were substantial. The emissions were dominated by the energy required to accelerate the vehicle in stop-start traffic. This contrasts with many of the accepted models in the literature, which exclude the effect of stop-start traffic and consider only the ‘cruise’ portion of the journey.

CO2 emissions were found to be significantly impacted by a change in speed limit. For a small hatchback, at a speed limit of 30mph CO2 emissions were found to be 22% greater than at a speed limit of 20mph. For a diesel SUV, CO2 emissions were 36% higher at a speed limit of 30mph than at 20mph.

NOx emissions were also found to be significantly impacted by a change in speed limit. At a speed limit of 30mph NOx emissions were found to be 41% greater than at a speed limit of 20mph.

Furthermore, 2.25 times more energy is required to reach 30mph than 20mph. In the real-world environment, where we slow down at junctions, crossings, congestion points and other hazards, acceleration becomes the dominant factor in overall journey emissions.

The graphic below shows Future Transport's results for the CO2 and NOx emissions for accelerating from stationary to between 5 and 50 mph for a for a petrol Ford Focus, as well as the energy required to accelerate to 20mph compared with 30mph.



A report in the British Medical Journal (BMJ) published in October 2022 (https://doi.org/10.1136/bmj.o2385) showed that in 2016 nitrogen dioxide and particulate matter produced by cars, especially tyres and brakes, led to 3300 premature deaths in NZ, where the study was carried out. This would represent about 11% of total deaths in New Zealand in 2016. Thus, a remarkable roughly one in 10 deaths could be linked directly to air pollution caused by cars. In addition to premature deaths, the NOx emissions led to 2000 cardiovascular related hospital admissions, 6500 respiratory related hospital admissions, and an asthma prevalence of 13 200 every year. Meanwhile, particulate matter caused 2600 cardiovascular related hospital admissions, and 2000 respiratory illnesses. Reduction of 30mph limits to 20mph limits in urban areas leads to a significant direct reduction in NOx emissions from cars, as well as an indirect reduction due to modal shift to active transport (and thus fewer cars on the road). Improved air quality as a result of this leads to improved public health, as well as health being improved by more active lifestyles.

What's happening elsewhere?

There has been an expansion of 20mph limits in the UK recently, with 20mph limits already being delivered to 26 million people in both rural and urban communities. Several English authorities have implemented 20mph as the default limit for residential streets, including Oxford, Bristol, Warrington, Hackney and Cornwall. Many parts of Scotland have 20mph as the default in urban areas. The reasons for this rapid expansion are both to improve road safety and to contribute towards healthier environments.

The Welsh Government has recently taken the decision to replace the national 30mph limit with a 20mph default with exceptions. Enabling legislation has already been passed and the shift to default 20mph limits will take effect in September 2023. This is part of their pathway to net zero, and is designed to help fulfil the five year priorities set out in the Wales Transport Strategy 'to make communities safer and encourage active travel'. Their stated objectives include reducing the number of vulnerable pedestrians and cyclists killed or seriously injured on the road, encouraging mode shift from private car to walking or cycling and reducing carbon emissions from transport.

There have been a number of independent studies investigating public perception of 20mph in areas where it has been introduced, as well as the effect of reducing speed limits on health, safety and active travel. In February 2018 the Bristol Twenty Miles Per Hour Limit Evaluation (BRITE) study was published by the University of the West of England (https://uwe-repository.worktribe.com/output/875541). This independent report assessed the impact of 20mph speed limits and found a reduction in road speeds and fatalities following road collisions since the lower speeds were introduced. It was found that 94% of surveyed roads have slower speeds, active travel levels have increased and there was a significant reduction in the number of fatal, serious and slight injuries and commensurate significant financial savings for the NHS far in excess of the implementation costs. The reaction from residents where a 20mph speed limit is in place was found to be overwhelmingly positive. In Bristol studies, 82% of those living in a 20mph area are in favour of the speed limit.

A report led by Edinburgh University and published in September 2022 in the *Public Health Research Journal* (https://doi.org/10.3310/XAZI9445) found that speed limit interventions that use signs and lines plus education and promotion alone can reduce casualties, and have significant public support and compliance once implemented.

20mph speed limits were introduced to 80 per cent of Edinburgh's streets in 2016, aiming to cut accidents, encourage more walking and cycling and create more pleasant neighbourhoods. Before the new restrictions, 45 out of 100 cars in Edinburgh travelled above 25 mph. One year later, the figure had dropped to 31. Average speeds on affected roads also fell. The number of collisions in one year fell by 40 per cent to 367, and there were 409 fewer casualties – a drop of 39 per cent. Replacing speed limit signs improved road safety and enhanced residents' quality of life. One year after implementation, the number of people supportive of the speed limits increased. Their willingness to obey the limits did too. The speed limit scheme was found to be cost-effective.

A smaller scheme in Belfast was also assessed. Researchers measured liveability – safety, health, sustainability, education, transport, amenities and living standards – and found it improved in both cities after the introduction of speed restrictions.

In conclusion, all of this recent research and experience from elsewhere in the country demonstrates that 20mph zones with supporting infrastructure have multiple benefits for local communities, both directly and indirectly, in terms of safety, health, environment, sense of place and happiness. Our community-led plan for the Pannal Ash Zone would bring all of these benefits to our area of Harrogate, with its vulnerable user-groups, particularly thousands of school children.