Making Sensor Sense

Programme of further processes for Schools

Mitigations

School Streets – A School Street is a road outside a school with a temporary restriction on motorised traffic at school drop-off and pick-up times. The restriction applies to school traffic and through traffic. The result is a safer, healthier and pleasant environment for everyone. School Street schemes offer a proactive solution for school communities to tackle air pollution, poor health and road danger reduction. A School Street scheme will encourage a healthier lifestyle and active travel to school for families and lead to a better environment for everyone. Sustrans runs these funded by local authorities: School roles include Bike It, iBike, Healthy Street Officers, and School Officers. Local authorities can bid for pots of money to fund Active Travel schemes and projects. This can be short term (6-12months) or long term funding (2+years) Funding supports Sustrans officers to work with the authority to support walking and wheeling to school with a range of activities. Rarely work directly with schools or parents without having a local authority partner to fund that project of work. School Street elements can be added to existing project work. http://schoolstreets.org.uk/

Walk to School – WOW is a pupil-led initiative where children self-report how they get to school every day using the interactive WOW Travel Tracker. If they travel sustainably (walk, cycle or scoot) once a week for a month, they get rewarded with a badge. Support access to bicycles for all, e.g. via a bike pool scheme. Alternative routes with no/less traffic should be suggested. https://www.livingstreets.org.uk/products-and-services/projects/wow

Utilise 'passive' control systems 'Passive' control systems, such as green barriers (e.g. hedges) along the boundary between school premises and adjacent roads, can minimise the daily exposure of school children to traffic emissions. Careful plant selection, considering the physical context and environmental conditions of the site, can minimise tradeoffs (e.g. pollen emissions) and maximise the potential for other ecosystem services (e.g. noise pollution reduction or biodiversity support) https://www.surrey.ac.uk/sites/default/files/2021-01/mitigating-childrens-exposure-to-traffic-pollution-english-version.pdf

Consider classroom air quality Restricting the opening of doors/windows that face the drop-off/pick-up point can reduce the infiltration of traffic-emitted particles but increase carbon dioxide build-up in nearby classrooms. Use of adequate mechanical ventilation and air filtration, perhaps including self-standing units, can further reduce the build-up of harmful particles and other pollutants including carbon dioxide. Consider installing carbon dioxide monitors in classrooms. Draw fresh air into the classroom if teachers notice/are made aware of symptoms among children of high carbon dioxide levels (e.g. tiredness, inability to think clearly, headaches, dizziness). Doors/windows that immediately face a road should be utilised for air exchange only during off-peak hours. Clean air purifiers/filters regularly or consider setting up proper air filtration and ventilation systems to mitigate indoor air pollution and minimise infiltration of outdoor pollutants.

Plan new school buildings carefully The majority of schools are close to busy roads, where air pollution is typically highest. Pollution concentrations tend to decay exponentially with distance from the road. Consequently, new school buildings should be strategically located away from main roads, where possible, but with safe walking passages between the school premises and main connecting roads. They should also be within walking distances of communities, to encourage walking and cycling and to minimise impacts of car emissions by parents/carers during school runs.

Consider road surface dust Despite less traffic and better atmospheric dispersion conditions during afternoon pickup hours than during morning drop-off hours, concentrations of coarse particles can still be higher due to drier road surfaces in the afternoon, assisting the resuspension of road surface dust by road traffic. Overnight dew usually suppresses roadside resuspension during morning hours, and wetting road surfaces during dry periods in the daytime could effectively reduce resuspension of road dust

Embed air pollution issues in education Air pollution and mitigation strategies could be integrated into the national curriculum. For example, fundamental scientific, social and road safety skills are reinforced as part of practices recommended in this guidance document, all of which help children to meet curriculum objectives. Moreover, the increasing availability of affordable pollution sensors could support relevant hands-on exercises and pupil-led experiments in curriculum subjects or before-/after-school clubs

Staggered drop-off times and/or carpool clubs may be encouraged to reduce emissions. Enforce with parent that they switch off the engine while you wait, even if it's only briefly and that any no-stop areas(e.g. double yellow lines) around the school should be respected. Vehicle use inside or very close to school premises should be discouraged by relocating drop-off/pick-up points away from the school entrance. Park cars away from the school entrance.

Be aware air pollution is worst in drop off than pick up times often

Any outdoor classes in morning hours should, where possible, be rescheduled for later in the school day (i.e. afternoon). Children should be directed to relevant classrooms via interior doors/routes, to restrict exposure to traffic emissions from drop-off/pick-up points. Access to classrooms via doors that face towards/close to traffic congestion should be restricted to reduce the impact of traffic-emitted particles on indoor air quality. If you can see the school entrance from your classroom window, try to keep the window closed during your first lesson to protect yourself from morning pollution. If your teacher says so, you can open windows later in the day or if you feel hot or tired.

AQ Analysis

Parents Evening - To explain Analysis to parents

Contact the council to reduce air pollution levels

AQ Measurement Results

Upload to DAFNI

Show to other campaigning organisations

Links

School Streets

Mayor of London's School Streets air quality study: https://www.london.gov.uk/WHAT-WE-DO/environment/environment-publications/school-streets-air-quality-study?s=08
How to Steward a School Street or Play Street
https://www.youtube.com/watch?v=rcLViIdm56U
Playing Out info https://playingout.net/play-streets/useful-stuff/
Playlist of School Streets videos: https://youtube.com/playlist?list=PL5fRA-WbPmiwgVa7I3GEbmmZ83Zrsun5c
Website on School Streets, which has a map of schemes: http://schoolstreets.org.uk/
Mums For Lungs / Possible research into feasibility of school streets outside London, and their impact: https://www.wearepossible.org/latest-news/school-streets-reducing-childrens-exposure-to-toxic-air-and-road-danger
Mums for Lungs School Streets page with advice and links to resources:
https://www.mumsforlungs.org/about-school-streets
Mums for Lungs resources page, containing our School Streets campaigning guide, flyer and celebratory poster, parent's briefing and template letter:
https://www.mumsforlungs.org/resources-and-downloads
Mums for Lungs School Streets Facebook group
https://www.facebook.com/groups/668727900211177/?ref=pages_group_cta
The Gear Change document:
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/904146/gear-change-a-bold-vision-for-cycling-and-walking.pdf

Conclusion

Summary