

THSG POLICY ON THE CLIMATE CHANGE & BIODIVERSITY EMERGENCIES

Your planet is on fire... Urgent recommendations to mobilize transport for biodiversity and climate change mitigation and adaptation.

As the zoologist Prof. Aubrey Manning has said “Human beings have existed for just 200,000 years, yet our impact on the planet is so great that scientists around the world are calling for our period in the Earth’s history to be named the ‘Anthropocene’ – the age of humans. The changes we are now making have exacted a heavy toll on the natural world around us.”

It now seems extremely likely that within the next few months the International Union of Geological Scientists will formally declare that the Anthropocene Era has started. It should give us pause for thought that human action has had an effect comparable to natural cataclysmic events like asteroid strikes or widespread volcanic change.

The Transport and Health Science Group (THSG), is an international scientific society and the principal public health organisation in the transport field. THSG endorses the ‘Call for the Declaration of a Climate Change Emergency’ by all nations of the world. THSG recognises that there is also a biodiversity emergency. THSG recognises that there is a need for funding for this area and a greater commitment by the Global North, which has been the main creator of these problems, to justice for the Global South, which has been one of the main victims.

Climate change is one of the greatest threats to public health across the world. It threatens socio-political, economic and environmental sustainability and hundreds of millions of lives, through

- adverse weather events;
- the urban heat island and related effects;
- loss of food supplies due to breaks in the supply chain, loss of food sovereignty, ecological and regulatory changes;
- waves of forest and other fires with dire consequences for every aspect of the environment, including human habitation;
- rising sea levels resulting in flooding to coastal cities,
- severe disturbances in the water cycle, destruction of glaciers, drought and lack of water;
- poor air and potable water quality;
- violence and war over limited resources; and
- the spread of infectious diseases.

Loss of biodiversity due to climate change, warming of the oceans, loss of coral reefs, overfishing, industrialised agriculture and destruction of habitat, also threaten serious consequences including

- loss of adaptability of food supplies
- loss of pollinators vital to human health, whole ecologies and crops
- destruction of marine ecosystems making much less fish available for food
- loss of potential therapies

- loss of many species before there is the opportunity to study them.

At the social, institutional and governance levels, these profound disruptions to systems vital for human and planetary survival, may lead to authoritarian, exclusionary, unjust responses that compound the high costs for those most vulnerable within our populations, particularly migrants forced into mass migrations due to ecological, social and other conflicts and collapse in their home countries, and indigenous peoples, displaced from habitual lands and ways of life, as key resources are appropriated for other, economic activities.

The worst-case scenario is that the human species itself could be part of a mass species extinction as we enter a new geological era, the Anthropocene Era.

We must act now in all areas of policy. As a public health organisation, THSG recommends Health Impact Assessment (HIA) as an adjunct to all policies and such assessments should include climate change within the impacts they address and emphasizes the importance of democratic governance based on respect for all human rights, as the basis for decision-making during these times of challenge and crisis.

So far as transport is concerned there are seven key areas.

1. **Healthy zero carbon transport can greatly enrich lives and communities, by freeing up space for local food production, composting and other strategic activities, along with improving health, while drastically reducing noise and other emissions.**

We append hereto the introduction to Health on the Move 2, published by THSG in 2011, in which we describe how a healthy transport system is compatible with an attractive lifestyle.

2. **Making better use of virtual work and meeting spaces and building out sustainable transport networks, particularly cargo and passenger trains run by clean electric energy, to drastically reduce business travel and commuting dependent on fossil fuels. Organisations around the world need to consider how they can make use of the benefits of cyberconnectivity.**

We call upon the world's enterprises to radically reduce their negative impacts on the environment, by eliminating meetings involving international travel; replacing some office work with working at home; and achieving shorter working weeks. We call upon governments to introduce incentives for such changes.

We call for the establishment of free or appropriately priced neighbourhood connections to internet or similar technologies to guarantee that all individuals and communities, regardless of their ability to pay, are able to access basic work, governmental services, bill payment, education, health and other spaces essential to

daily life. We call upon governments to fund this endeavour and companies to contribute an appropriate percentage of their incomes from monopoly services, whether electricity, water, transportation, internet or other utilities.

We call upon international organisations to limit the occasions on which people need to fly to meetings by arranging for committees requiring such travel to hold only one or two meetings a year face to face with the remainder in cyberspace. We call upon the United Nations to set an example on this matter.

We recognise that action has been taken on some of these measures but it has not gone far enough or been extensive enough. All organisations need to catch up with the best and the best need to go even further.

3. The world needs to replace aviation with a zero-carbon alternative. Airport development should be halted and the creation of an alternative should be urgently planned.

We believe that the role of aviation in the future will be limited to flights across oceans and polar ice caps; flights to islands which are too far from the mainland for a bridge or frequent ferry; and local transport in remote roadless areas like Alaska, Antarctica, the Amazon and the Australian outback.

The bulk of existing passenger aviation can be replaced by high speed trains or by new systems like the hyperloop. Air freight may be reduced by accepting seasonality for some produce or by faster international rail freight services.

We call upon the governments of the world to halt all investment in airport expansion and to commence the active development of an international high-speed rail network. A first step in planning this network will be a decision as to whether or not the hyperloop is likely to become viable as the basis of such a network.

4. The world needs to replace the private car with travel on foot or by cycle for shorter journeys and by transit systems for longer journeys; to replace last-mile cargo deliveries with cycle and electro-assisted cycling solutions; and replace long distance road freight with freight by rail and by water, the role of the lorry being only at the final stage of the journey to the ultimate destination. There should be an immediate halt to highway development and highway improvement programmes and the money should be redirected to the development of alternatives, with highway lanes rededicated to bus, training, active transport and natural infrastructure to eliminate the barrier effect, restsave lives and guarantee the right to travel safely and securely on key infrastructure.

We call upon governments to halt investment in expansion or improvement of the motorway network and reallocate limited fiscal resources to rail, public transport and walking and cycling infrastructure.

Replacing road freight with rail would have substantial benefits for ecological sustainability and spatial demand. A longstanding challenge to such a policy has been how to ensure 'to door' delivery, given that rail lines cannot be built to all necessary end points. Replacing motorways with trains that carry freight containers

already loaded on lorries, ready to drive away at the rail terminus, offers an innovative solution to these issues.

It is not possible to develop cities based on the private car as the primary mode of transport without negative impacts on human health, quality of life and well-being. At least a third and perhaps two thirds of urban trips can be made on foot or by cycle. Cycle freight is capable of substituting for about half of urban delivery journeys. Rapid transit systems, whether rail based or bus based, can be developed as a viable alternative to the urban use of the private car. Governments should support and fund modal shift and invest in the networks that will make it easier and more efficient.

As we move towards driverless vehicles, the question of whether such vehicles operate door to door with a single user or station to station with shared use should be explored. A stream of guided vehicles shared by users making the same journey is a viable form of rapid transit. Individually used door to door autonomous vehicles would dramatically increase the number of cars on the road with an adverse effect on congestion that would offset the benefits of more efficient road use and would reduce walking and cycling, exacerbating the international obesity pandemic. Integrating guided vehicles into a rapid transit system could increase walking and cycling (at least as far as the station) and would reduce congestion to any guided system.

Guided buses and tramways provide vital opportunities for rapid transit in urban areas where any transport space is often rapidly dominated by private cars and private hire vehicles. Mixing light and heavy rail use in the same tracks may offer innovative solutions to crowding and surge responsiveness.

Free public transport should be considered as a possible way to promote modal shift of excellent quality, with provisions for care-related trips, universal access, bike-bus-train integration, collective and individual taxi services for people, wheel chairs, other mobility aids and cycles.

Intermodal, walk-bike-bus-train combinations should be the basic sustainable, socially inclusive, transport solution, with a focus on neighbourhood, city-wide and regional networks, which include bike rental, public bikeshare, cycle taxis and other solutions, properly adapted to the needs of diverse people, particularly carers travelling with small children, craftspeople travelling with tools or products, people with disabilities or different abilities, particularly older people, a population group that is on the rise virtually worldwide. Bikeshare and bike rental vehicles should consider travel for shopping, with one or more children, and pets, along with cargo bikes, since not all households can or should have a private vehicle of this nature. Fare integration and fare charging systems must ensure they not only integrate use of walk-bike-public transport modes in a single fare/card, but also they must not rely on items, such as credit cards, which may be too costly for unbanked sectors of the population or expensive mobile telephones that attract violence and theft in low-income and marginal situations often associated with public transport. The combination of the cycle and bus rapid transit or train systems should be provided with priority infrastructure that recognizes their environmental and social benefits,

and enhances their efficiency, public transport by moving large numbers of people and cycles by using very little space. All users of active and public transport should enjoy the well protected right to travel safely and securely to every destination within local, regional and national transport networks, without risk of death or disability. People cycle to a public transport hub (bus, rail or bus-rail), where they can take a train to the next hub, and then cycle on their own or a low-cost bikeshare vehicle to their destination. Depending on trip purpose, destination, ability and other factors, they may take their cycle with them, keep a second cycle at the other end for a regular journey, hire a cycle or a cycle taxi.

Barriers to intermodal travel of this nature include: the prohibition of cycles on buses, trains and trams; inadequate bicycle storage capacity and/or safety; and, in some cases, inadequate shower and change facilities at destinations. These barriers should be addressed.

There should be a sharing of experience between cities, learning from the experiences of those which have been most successful. Car-free Days (when sustainable transport modes take priority on main roads and most cars are banned) can help people understand the alternatives available whilst also providing an impetus to reducing the number of working days.

5. Whilst water services for passenger and freight are often preferable to air freight, the shipping industry also needs to address its carbon footprint and the effect of oil spills and both public and recreational transport systems must consider guidelines and obligatory measures to guarantee the safety and security of non-motorized users of canoes, rowboats, ferries, boat taxis and other similar vehicles.

It has been shown to be possible to power a large yacht with sails and auxiliary electric power derived from very thin solar panels covering the sails. The development of this technology to replace fossil-fuel-powered ships with sailing ships with auxiliary solar-powered electric engines should be explored urgently with a view to making it economically feasible in the relatively near future.

6. Transport systems will be affected by climate change and need to plan the necessary mitigation

Roads, busways, undergrounds and overground railways will be affected by flooding. Coastal roads and railways may be washed away. Wildfires will affect transport routes. Street designs must change to accommodate both hotter, dryer, windier and wetter conditions. Floods and wildfires may affect electricity supplies.

7. The impact of new transport schemes on biodiversity needs to be considered

The building of roads can lead to development following the road and so the building of roads through and into forested areas should be avoided. There needs to be much more attention to the impact of shipping in marine life. Moreover all roads should

give priority to walking, cycling and collective transport modes, rather than encouraging overcrowding by private cars.

The concept of a Climate Change and Biodiversity Emergency is that the necessary actions should be urgently undertaken, with corrective measures taking precedence over caution and inertia, political considerations, commercial interests, or fear of the reactions of those pursuing self-interested support of the status quo. It is not enough to point defensively to what has already been done – even the best must not rest on their laurels but must do more and must call upon others to follow their lead. If your house is on fire, you do not respond by checking diaries to see when everybody is free to sit down and discuss the problem. Humanity has only a limited time available to prevent the horrendous consequences of climate change. It is time for action, not for faint heartedness.

There is a need for funding of the necessary actions. This leads inevitably to discussion of justice between the Global North and Global South. The Global North is the main cause of the past emissions that have created this problem. It now asks the Global South to avoid following the same path. Whilst it is true that the Global South should follow a different and less damaging course of development this needs investment which justice demands should be provided by the richer countries that have caused the problem.

Richer countries that have grown rich by following a development path that has created the present emergencies must bear a large share of the cost of shifting the course of future development around the world and repairing the damage caused around the world.

APPENDIX – LIFE WITH A HEALTHY TRANSPORT SYSTEM

Reproduced from the introduction to our publication Health on the Move 2 Mindell JS, Watkins SJ, Cohen JM (eds). Health on the Move 2. Policies for health-promoting transport. Stockport: Transport & Health Study Group, 2011

Jean checked her diary for the day. It wouldn't be necessary to go into HQ. But there were some meetings which would need her to use the video facility at her local neighbourhood work station. She pondered whether to go to the work station for the whole day or whether to work at home in the large office that they had built in the garage when they gave up the cars. She'd rather like the company, she thought, and Angela was always there on a Tuesday so she'd be able to ask Angela for advice about storing her parents' motorised transport contraptions once they convert their garage into a downstairs bedroom. It had taken her so long to persuade them to do this but, of course, her parents' generation had grown up in the days of private transport and found it hard to abandon old attitudes. Angela always used the community transport bus door to door whenever she needed to go further than her self-propelled wheelchair could manage. Jean had only ever used this when she had heavy luggage

but she wondered if it would answer all her parents' travel needs too now they had finally given up driving regularly.

Coming back to the present she settled down to eat her breakfast. Bacon from the pig farm in the next village. Eggs from her own hen. Toast and marmalade, made from good Sheffield oranges grown in the multi-storey farms of the Don Valley.

David had overslept. Not surprisingly after the late night he had had the previous evening. As she was finishing her breakfast he joined her, spent a few minutes bolting down some cereal (from the multi-storey farms at Ringway, built on the site of the old airport) and rushed out to get his bicycle.

"It's pouring down" she said "Why don't you walk?" "Too late" he said as he pedalled off to the station.

Jean followed him but she walked along the covered walkway to protect her from the rain. It was a nice street. Rose gardens and trees and children's play areas filled the gaps between the opposing houses. On a sunny day Jean would have wandered amongst them, chatting to neighbours and watching the children play in the street out of harm's way but today the weather called for being under cover. Half way to the work station there was the facility that Jean had pressed so hard for when the street was being designed – the open-air swimming pool. As she passed the swimming pool, the delivery van bringing the shopping up to the local shop for people to collect was picking its way along the carriageway. Unlike the straight direct cycleway, motor vehicles had to negotiate the gaps between the obstacles rather than having a protected carriageway. Jean watched the van, its guidance devices, speed regulators and obstacle detectors all fully engaged, as it inched gingerly along the edge of the pool. It reminded her of the incident last winter when the council had only had enough grit to do the pavements, cycleways and busways and the roads had been closed. The delivery van driver had foolishly ignored this and had ended up in the swimming pool and winner of You Tube's Idiot of the Week.

As Jean arrived at the work station, checked her booking of the videoconference for the meeting that afternoon, switched on her computer, and started to write a lecture for medical students setting out the evidence for the powerful health benefits of social networks, David was arriving at the Metro station.

He inserted his card and keyed adult single with cycle to Emmerdale into the journey planner. A recorded voice came over the intercom. "Next but one service from Platform 3. Change at Angerfield, which is the fourth station, for a bus to Emmerdale from stand E." Then a real human voice replaced it as the controller intervened. "The Emmerdale bus is demand-responsive and you are the only person booked on it today. If you'd prefer we could let you have a car from the Car Club for the normal bus fare and without road charges." They often made this offer when he was going to Emmerdale. Usually he took it but today he was feeling tired and he didn't think it would be safe so he declined, collected his tickets and made his way to the platform. The freight train to the shopping distributive warehouse at Angerfield was passing as he reached the platform, then the fast train to the city drew up into the platform making the wayside stop that it made here once an hour instead of running through

non stop as it did the rest of the time. David knew this train stopped at Angerfield. They wanted him to wait for the tram because he would get no benefit from the train due to the connection and they liked to keep short distance passengers on the trams if they could. But he rather fancied the plusher seats of the train so he climbed aboard, stored his cycle in the cycle van and lounged back into a seat. The train flashed past the three intervening tram stops and overtook the freight train as it manoeuvred itself into the shopping sidings. Then the train drew up at Angerfield. He made his way to stand E and relaxed in an armchair watching the trolley buses come and go as he waited for his own bus. While he waited, he thought about their holiday. 15 days on a cruise train. They started with a day in Paris, then a slow daytime ride across the Alps with a break at Innsbruck. Full days spent, in Venice, Bled, Dubrovnik, Athens, Istanbul, Samarkand, St Petersburg, Narvik and Bergen, sometimes linked by high speed overnight travel, sometimes interspersed with slow, looking out of the window days. He thought Samarkand and Athens would be the highlights of the trip.