

Transportation and Public Health (Book Review)

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M D Meyer and O A Elrahman (Eds.) (2019) Transportation and Public Health - An Integrated Approach to Policy, Planning, and Implementation. Elsevier, Amsterdam.

There is growing academic recognition of the links between transport and public health. This is visible in the continued growth of the *Journal of Transport Health* and in the number of publications in other transport journals. There were also recent efforts to systematize the pathways linking transport and health (Glazener et al. 2021) and to provide overviews of the literature (Nieuwenhuijsen and Khreis 2020), while the *Transport and Health Science Group* is preparing an update on its *Health on the Move* guidance (Mindell et al 2011).

Transportation and Public Health adds to this growing activity by proposing solutions to integrate public health concerns into transport planning. In many countries, transport planners have been implicitly addressing public health for some time, first with measures to reduce emissions per motorised trip (by regulating vehicles and fuels) and more recently with measures to reduce the number of trips (by influencing travel behaviour). The book suggests a stronger integration, because public health and transport officials “*have a mutual interest*” in collaborating to enhance health outcomes (p.255).

The book features the well-known links between transport and problems such as collisions, air pollution, active travel, climate change, with shorter mentions to mobility and accessibility to health facilities. However, the approach is different from other publications, as it also explains how those problems have been, or could be, tackled by a combination of science, technology, policy, and public advocacy. On the policy side, a range of options is presented: regulation of infrastructure, vehicles, traffic, use of vehicles, and policies to change travel behaviour. This is supported by many references to policy statements and guidance documents.

There are also five pages on the effects of transport on water pollution, a topic that has had less coverage than air pollution. The focus is on the substances (oil, roadside herbicides, de-icing salt) that run off from impervious surfaces used for road transport (roads, parking lots). What is missing in this discussion is the impact of water transport on water pollution. For example, cruise ships are one of the most environmentally damaging means of transport, with negative impacts on human health.

For me, the most interesting section of the book is the one titled “Transportation and _____” (sic). This includes topics that have had little coverage in the transport and health literature.

Some topics relate to what is carried by transport systems. There are 15 pages on the role of transport in the transmission of infectious diseases, anticipating what would become one of the main global concerns (the book was published just before the onset of Covid19 pandemics).

The book stresses that the faster the mode, the faster the transmission - the global air transport system can spread a disease around the world even before health authorities are aware it is happening. It also explains how pathogens are transmitted by touching surfaces used by many people (e.g. ticket machines, door handles, poles and straps in vehicles), and by droplet or airborne transmission in crowded conditions. If the book was released now, or in a new edition, it would have much more to report on this topic, such as the impact of travel restrictions and social distancing in public transport on accessibility, fear of travelling, and ultimately, mental health. But even as outdated as it is (in just 3 years), the book still provides interesting accounts of the role of transport in the 14th century bubonic plague, the early 19th century cholera pandemics, and the 1910s Spanish Flu. As in other parts of the book, attention is drawn to policy guidance that is seldom mentioned in the literature. At the start of Covid-19 (or even now), how many transport experts were aware of the *Guide for Public Transportation Pandemic Planning and Response* (NASEM 2014)?

Another interesting link between human health and what is carried by transport is the effect of invasive species in natural environments. Some of these species are “ride-alongs”, transported to new environments attached to the outside of ships or in ballast water carried by ships to stay balanced. A topic with more research and legislation is the transport of hazardous materials (explosives, flammable, corrosive, infectious, or radioactive substances), which can have public health impacts in the surrounding areas in the case of collisions or leakages.

There is also some material on the resilience of transport systems to disruption (climate change and disaster response), again emphasizing the need for collaboration across sectors. There is a list of many things that could go wrong in future transport systems affected by climate change. However, last year’s events have shown us that those things are not in future but are already happening, including high temperatures melting or cracking transport infrastructure (Topham 2022), droughts halting water transport (Oltermann 2022) and forest fires endangering transport users (Burgen 2022). Another important aspect mentioned in the book is that high temperatures may reduce walking and cycling in the future, something that needs to be explored more in the literature.

The book rounds up the insights from all these transport-health links with recommendations for Health Impact Assessment in the transport sector. It shows how these assessments can work at different levels (region, corridor, public transport agency), with clear examples, all following the same structure (including diagrams of the health pathways in question and details on assessment methods). The most interesting recommendation is somehow hidden at the end of a sub-section, and is that assessments should include a sensitivity analysis (which they seldom do). This is because transport or land use policies may not always achieve the desired magnitude of change in travel behaviour, and even when they do, this magnitude may not be enough to have a noticeable public health benefit. So the question is what may happen when the assumed effects on behaviour and health do not materialize.

Despite covering several seldom-analysed topics, the book also has large gaps. There is nothing about transport noise. The words “mental health” and “stress” are also almost absent from the book. There is also little about problems in rural areas. Links with equity are made in some places, mentioning children, older people, and low-income populations. Groups that have been ignored in the transport literature are also absent in this book, including LGBTQ+

populations. Fear of harassment in public transport is a barrier to travel among this group, affecting their mobility, accessibility and physical and mental health.

The book also misses an opportunity to become a reference in the literature because of its narrow USA focus. It will be off-putting to international readers that the first attempt to describe the links between transport and health in Chapter 2 goes straight into a national vs. federal dichotomy that will be meaningless for many readers, and proceeds with discussions where the US case is always the default (“the nation”). Similarly, the transport and health institutions described in Chapter 3 are the US ones and in Chapter 7 there is a really long (8 pages) enumeration of US traffic safety statistics. Other parts of the world are mentioned mainly when talking about initiatives of the United Nations or the European Union. This US focus does not reduce the quality of the book but it makes it less useful to readers in other countries.

The conclusion is that *Transportation and Public Health* is more narrow in scope than previous efforts, both thematically and geographically. However, it is still an important contribution, as it brings research closer to public policy. As argued by Davis (2021), this is the main “to do” task for the full recognition of the transport and health field. This book is a step in that direction.

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