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## WHAT MINISTRIES OF TRANSPORT NEED TO KNOW

Noncommunicable diseases

### **KEY POINTS**

- Transport is strongly linked with health, development and environment.
- Transport ministries can make a positive contribution to the prevention and control of NCDs.
- There are evidence-based policies that the transport sector should prioritize to improve health and well-being.
- There are many examples of successful initiatives.
- Transport ministries should strengthen partnerships for impact.

# 1. Transport is strongly linked with health, development and environment.

- Sustainable transport is vital to sustainable development. For example it increases access to work, education and health care as well as other public goods, strengthens economic growth, and mitigates climate change and environmental damage.
- Poorly managed transport and urban development have significant adverse impacts on health and development, including through road trauma, air and noise pollution, and physical inactivity.
- Globally, seven of the top ten causes of death can be linked to the transport sector.<sup>1</sup>
- Deaths from road traffic (RT) crashes are the leading killer of children and young adults aged 5-29. Each year approximately 1.4 million people die and 50 million are injured on roads.<sup>2</sup> More than half of those deaths are amongst pedestrians, cyclists, and motorcyclists.<sup>3</sup> Ninety-three percent of deaths on roads occur in low- and middle-income countries.
- Transport accounts for almost a quarter of energy-related carbon dioxide (CO2) emissions.<sup>4</sup> Ambient (outdoor) air pollution caused 4.2 million premature deaths in 2016, most from noncommunicable diseases (NCDs) – principally cardiovascular diseases, cancer, chronic lung disease, and diabetes.<sup>5</sup> Trafficrelated noise and congestion are associated with heart disease and poor mental health.<sup>6</sup>

Achieving the NCD-related SDG targets will deliver gains across Agenda 2030, given the relationship between NCDs, poverty, inequalities, economic growth, climate action and other goals and targets. WHO and UNDP, as part of a larger UN system-wide response, support whole-of-government NCD responses. WHO, in line with its thirteenth General Programme of Work, provides technical assistance to the health sector to map the epidemic, set national targets, develop multisectoral policies and plans, and enable health systems to respond. UNDP, in line with its Strategic Plan 2018-20217 and HIV, Health and Development Strategy 2016-2021,<sup>8</sup> supports NCD action within and beyond the health sector, leveraging its work to keep people out of poverty, strengthen effective and inclusive governance, and build resilient and sustainable systems for health.

### What are NCDs and why must government work together?

There are four main NCDs: cardiovascular diseases (which include heart disease and strokes), cancers, diabetes and chronic respiratory disease.

40 million people die from NCDs each year, including 15 million people who die between the ages of 30 and 69. Over 80 percent of these 'premature' deaths from NCDs occur in lowand middle-income countries. Most premature NCD deaths are from four main behavioural risk factors – tobacco use, harmful use of alcohol, physical inactivity and unhealthy diet.

Population exposure to these behavioural risk factors for NCDs is determined largely by policies in environment, urban planning, trade, youth and sports, labour, tax, education and other 'non-health' sectors. This means that early illness, death and disability from NCDs are largely avoidable through better policy coherence across sectors.

Given the social, economic and environmental burdens of NCDs, it is possible to identify strategies and approaches that deliver shared gains for all sectors involved.

- Including heart attack (1<sup>st</sup>), stroke (2nd), pneumonia (3rd), chronic respiratory disease (4th), lung cancers (5th), and diabetes (6th), and road injuries (10th). World Health Organization, 2015. Global Health Observatory data (<u>http://www.who.int/gho/morfality\_burden\_disease/</u> causes death/too 10/en/).
- causes\_death/top\_10/en/).
  2 WH0 (2015). WH0 Global Road Safety Report 2015. <u>http://www.who.int/</u> violence\_injury\_revention/cod\_safety\_status/2015/en/
- WHO (2015). WHO Global safety septer 2015. <u>UIU/TWWWWMCMICMIT</u> violence\_injury\_prevention/road\_safety\_status/2015/en/
   WHO (2018). Road traffic injury website. <u>https://www.who.int/news-room/fact-sheets/detail/road-traffic-injuries 6 WHO. Health and sustainable development. Climate impacts. https://www.who. int/sustainable\_development/tensord/health-tisks/climate-impacts/and</u>
- int/sustainable-development/transport/health-risks/climate-impacts/en/ 4 WHO. Health and sustainable development. Climate impacts. https://www.who.int/
- sustainable-development/transport/health-risks/climate-impacts/en/ 5 WHO. Ambient (outdoor) air quality and health. https://www.who.int/en/news-room/fact-sheets/
- Milo Amberta (Outcol) air quality and health
   Munzel, T, et al. Environmental Noise and the Cardiovascular System. Journal of the American College of Cardiology 2018, 71(6); Beutel, ME, et al. Noise annoyance is associated with depression and anxiety in the general population: the contribution of aircraft noise. PloS One 2016, 19, 11(5).

 UNDP Strategic Plan, 2018-2021. <u>http://undocs.org/DP/2017/38</u>
 UNDP (2016). HIV, Health and Development Strategy 2016-2021. <u>http://www.undp.org/content//</u> undp/seh/home/librarypage/hiv-aids/hiv-health-and-development-strategy-2016-2021.html

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 The use of motorized transport, particularly personal vehicles, has increased physical inactivity. Worldwide, 1 in 4 adults and 3 in 4 adolescents (11-17 years) do not meet World Health Organization (WHO) physical activity recommendations.9

#### Impacts on the 'bottom line'

Road injuries (fatal and non-fatal) project to cost the world economy US\$1.8 trillion between 2015 and 2030.10

Cardiovascular diseases, cancer, chronic lung disease, diabetes and mental health illness are estimated to cost low- and middle-income countries \$21.3 trillion between 2011 and 2030.<sup>11</sup>

These enormous losses are not only from the initial emergency and medical costs, but also from indirect costs associated with early death and long-term disability.

#### 2. Transport ministries can make a positive contribution to the prevention and control of NCDs.

- Advancing universal health coverage (UHC). Affordable transport (e.g. expanding and subsidising public transport), enables people, especially the poor, disabled, elderly and other vulnerable populations, to access health services more easily.
- Reducing NCD risk factors. User-friendly public transport is key to a healthy and sustainable transport policy. Smoking should be banned on public transport, stations and bus stops, with advertising of health-harming products banned or otherwise restricted. Density of unhealthy options along commuter routes can be regulated, for example through zoning or incentive structures for healthier businesses.

#### **Reducing inequities through sustainable** transport in Colombia<sup>12</sup>

Like many countries, Colombia is facing high levels in inequality amidst rapid urbanization. To respond to this:

- In 2000, Bogota introduced the TransMilenio Bus Rapid Transport (BRT) system, which spans 113 km and operates 2.3 million trips daily. The BRT has increased physical activity and decreased crashes, while saving time for those using the services.
- In 2004, Medellín introduced an aerial tram system which connected isolated low-income neighbourhoods to the city's urban centre. The tram significantly reduced violence (66 percent greater reduction in neighbourhoods with the Metrocable vs. without) and reduced spatial segregation. Planners promoted physical activity by making parks and recreation areas accessible along the tram's route.
- 3. There are evidence-based policies that the transport sector should prioritize to improve health and wellbeing.

The 2030 Agenda for Sustainable Development, the Decade of Action for Road Safety 2011-2020<sup>13</sup> and Paris Agreement are international frameworks for ministries of transport to combat RT crashes, air pollution and chronic diseases. Guided by these frameworks, as well as the WHO Global Action Plan on the Prevention and Control of Noncommunicable Diseases 2013-2030 and the WHO Framework Convention on Tobacco Control (WHO FCTC), ministries of transport should work across government and society to address:

#### Road safety

 Implement WHO's Save LIVES technical package for road safety.14

WHO (2018). Global action plan on physical activity 2018 -2030: more active people for a healthier

who (2016), sciobal action play on physical activity 2016 - 2030; miles active people ion a neurini world, https://apps.who.int/iris/bittsma/handle/10656/27272/978921514187-eng.pdf.
 Chen, S, et al. The global macroeconomic burden of road injuries: estimates and projections for 166 countries. The Lancet Planetary Health 2019, 3(9).
 HSPH and WEF (2011). The Global Economic Burden of Non-communicable Diseases: http://www.sweforum.org/docs/WEF Harvard.HE\_ GlobalEconomicBurdenNonCommunicableDiseases.2011.pdf

<sup>12</sup> For a detailed summary, see LAC-Urban Health (2017). Sustainable Transport and Urban Health: Lessons from Latin American Cities. Policy Brief No. 1. <u>https://drexel.edu/lac/data-evidence/</u> briefs/

<sup>13</sup> SDG target 3.6 is "By 2020, halve the number of global deaths and injuries from road

 <sup>13</sup> SDb target 3.018 by code many set of the set of th

- Reduce drunk-, drug- and distracted driving<sup>15</sup> including through checkpoints, breathalyzers, regulation of liquor availability (e.g. points and hours of sale), and warning signs; investigate, measure and prevent tired- or 'drowsy'-driving.<sup>16</sup>
- Adopt, implement and enforce fair and equitable laws to reduce speeding, establish license requirements, make seatbelt and helmet use mandatory, and otherwise control traffic (e.g. traffic light violations); ensure monitoring of violations and adequate penalties for deterrence.
- Sign-up to UN legal instruments on vehicles, parts and equipment and adopt and implement laws and regulations to ensure safe production and import.
- Improve road infrastructure (e.g. through design) and lighting/maintenance), as well as vehicle safety to reduce crash severity.<sup>17</sup>
- Ensure and promote road safety at work through legally enforceable mechanisms as well as engagement with the private sector to address driver recruitment, testing and work scheduling, and fleet safety.
- Improve post-crash care,<sup>18</sup> including through an emergency management system (EMS) which ensures timely arrival of rescue vehicles/ personnel as well as rapid determination of appropriate facilities for the injured.
- Adopt, implement and enforce laws to ensure access to care after RT crashes, and to protect victims of crashes as well as bystanders who assist in the response.
- Strengthen institutional capacity for national road safety, including by establishing a responsible, accountable and appropriately resourced lead agency, involving partners across sectors, and developing a national strategy.

#### Urban design

• Ensure that macro-level urban design incorporates core elements of a compact city, including adequate residential density, street network connectivity and land-use diversity, creating shorter distances and enabling easy access to diverse opportunities.<sup>19</sup>

- Implement and enforce regulations to discourage private vehicle use, including e.g. the creation of car- and motorcycle-free zones around schools for children's independent mobility, and the expansion of permanent and temporary pedestrianized areas (e.g. 'Open Streets',<sup>20</sup> cycleways/cycle paths); ensure monitoring of violations and adequate penalties for deterrence.
- Allocate urban land to more sustainable forms of transport e.g. by shifting parking space to walking, cycling and public transport infrastructure.
- Develop and strengthen institutional capacity to implement design guidelines and building codes that protect and promote walking, cycling and public transport while discouraging private vehicle use.

#### Air quality<sup>21</sup>

- Set fuel emissions standards and regulations to protect environment and health, and enforce/ penalize violations through routine checks.
- Encourage the development, manufacturing and use of low-emission, energy-efficient transport (e.g. BRT, metro/subway/light rail, bicycles, hybrid vehicles, fuel cell electric vehicles, aerial trams) and fuel (e.g. biodiesel, natural gas, hydrogen); ensure universal accessibility and affordability.
- · Ban, limit and phase out the manufacturing and use of high-emissions, energy-inefficient transport and fuel options (e.g. diesel fuel vehicles), particularly in population-dense areas. Discourage private vehicle use for example through congestion charges, taxes on diesel fuel use and by incentivizing vehicle sharing.<sup>22</sup>

WHO (2015). Global Status Report on Road Safety 2015. Higgins, JS, et al. Asleep at the Wheel – The Road to Addressing Drowsy Driving. Sleep 2017, 40(2). "Fiscal policies, customer information, and incentives can be used to ensure motor vehicles reach internationally-agreed standards, provide high levels of road user protection, and discourage the Internationally-agreed standards, provide high levels of road user protection, and discourage the import and export of new or used cars with reduced safety standards. "World bank report citing OECD/ITF, Towards zero: ambitious road safety targets and the Safe System approach. 2008, Joint Transport Research Centre of the International Transport Forum and the Organisation for Economic Cooperation and Development (OECD). WHO (2018). Decade of road safety 2011 -2020 website.

WHO (2017). 'Best buys' and other recommended interventions for the prevention and control of noncommunicable diseases. <u>http://apps.who.int/iris/bitstream/handle/10665/259232/WHO-N</u> <u>NVI-179-eng.pdf</u> 19 232/WHO-NMH-

See e.g. https://openstreetsproject.org. UNDP's support to sustainable cities includes integrated solutions that combine renewable energy 21 and efficiency measures with other aspects of urban design, such as sustainable mobility, transport and waste management. http://www.undp.org/content/undp/en/home/climate-and-disaster-

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• Legislate for 100 percent tobacco smokefree environments in all public transport and facilities.<sup>23</sup>

#### Physical activity

- Promote accessible bike lanes, well-maintained pedestrian sidewalks and crossings, quality bike parking facilities and bicycle use programmes (e.g. cycleways/cycle paths, cycling to work or school programmes, etc.).<sup>24</sup>
- Encourage mixed-use zoning that places shops, services and jobs near homes while increasing access to recreational facilities and safe green spaces.

#### Workplace wellness

- Implement comprehensive workplace wellness programmes and policies for transport workers, including screening for NCDs and metabolic risks (e.g. hypertension, overweight and obesity).
- Banning tobacco and alcohol use on the job (e.g. for bus drivers and infrastructure workers), communicating the dangers of NCD risk factors, and managing work-related fatigue (particularly for commercial drivers, e.g. through hours-ofservice regulations).

#### Communications

- Ban or restrict, through regulations, the advertising of health-harming products in public transport and facilities as well as on platforms under transport's purview (e.g. local radio).
- Disseminate health-promoting messages through transport-related spaces and media, including on the benefits of active transport and guidance on how to increase it (e.g. maps).

#### Research and monitoring

• Assess the potential health impacts of transportrelated projects (e.g. highway construction), including by integrating health into environmental and other assessment modalities.<sup>25</sup>

- Measure and account for the range of impacts of sustainable mobility interventions.<sup>26</sup>
- Support routine data collection at national and local levels, and in both cities and rural areas, on the transport sector's relationship to ambient air quality and health.<sup>27</sup>
- Strengthen data systems on RT crashes in line with Save LIVES.

#### Financing

- Remove/reduce fossil fuel subsidies, support taxation of fuel, and introduce carbon pricing.<sup>28</sup> Invest revenues from parking and speeding fines and penalties into healthier and safer transport.
- Promote co-financing of high-impact interventions that deliver benefits across sectors.<sup>29</sup>

# 4. There are many examples of successful action on transport-related NCDs.

- Stopping RT crashes. Viet Nam's multisectoral National Traffic Safety Committee implemented evidence-based interventions to significantly reduce road traffic injuries. Cross-ministry interventions, from ensuring motorcycle helmet use to preventing drink-driving, helped reduce road traffic mortality in Ha Nam (5 percent) and Ninh Binh (26 percent) from 2010-2013.<sup>30</sup>
- Promoting physical activity, reducing pollution and providing access to health services. In 2018, Ethiopia introduced monthly 'Car Free Days' in which major roads are shut down in Addis Ababa and other cities to promote physical activity and healthy living while reducing pollution. Car Free Days includes opportunities for participants to receive free health checks.<sup>31</sup>

 Cite transport brief from Drexel.
 A recent analysis estimated that transport emissions were responsible for 11.7 percent of global PM2.5 and ozone mortality in 2010, and 11.4 percent in 2015. <u>http://www.cacaalito.org/en/resources/</u> global-snapshot-air-pollution-related-health-impacts-transportation-sec

global-snapshot-air-pollution-related-health-impacts-transportation-sector-emissions-2010
Such taxes save lives, reduce healthcare and lost productivity costs, and generate revenue for development. WHO advises that removing energy subsidies by placing a tax on carbon that is consistent with countries' national interests would raise approximately USS3 trillion per year, or 3 percent of global GDP. Carbon pricing can be through taxes or other forms like cap and trade systems based on carbon credits.

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High impact road safety measures in Great Britain have been financed through a pooled grant involving transport, health, education, and justice and law enforcement. See UNDP and Strive (2019). Financing across sectors for sustainable development – Guidance Note. <a href="https://www.undp.org/content/undp/en/home/librarypage/hiv-aids/financing-across-sectors-for-sustainable">https://www.undp.org/content/undp/en/home/librarypage/hiv-aids/financing-across-sectors-for-sustainable development.</a>

30 National mortality reporting from Ministry of Health, Viet Nam, Hanoi, Viet Nam, Ministry of Health, 2010, 2013.

 BBC News. Thousands walk on Ethiopia Car Free Day, 9 December 2018, <u>https://www.bbc.com/</u> news/world-africa-46499036; No Traffic in Addis Ababa as Ethiopia marks Car Free Day, 3 February. 2019. https://www.bbc.com/news/world-africa-47107327

<sup>23</sup> Consistent with Article 8 (Protection from exposure to tobacco smoke) of the WHO FCTC.
24 Health authorities across the UK and the UCL Institute of Health Equity have formed a network of cities which address health inequalities. 'Marmot Cities' have convened partners across transport, health, businesses, educators and communities to ensure equitable infrastructure and access to support for cycling, among other things.

nearth, Dusinesses, educators and communities to ensure equitable infrastructure and access to support for cycling, among other things.
 UNDP (2017). Guidelines on Integrating Health and Gender into Environmental and Social Impact Assessments in Sub - Saharan Africa. Prepared for UNDP Regional Centre for Eastern and Southern Africa by the Southern African Institute for Environmental Assessment. <u>https://hivlawcommission.org/wp-content/uploads/2017/11/EIA\_New-Guideline-2017.pdf 26 Cite transport brief from Drexel.</u>

- Addressing health and environment. A few years after Bangalore, India began converting its 6,000 buses to compressed natural gas and discouraging car use, traffic pollution declined by about 20 percent and 1 in 4 people switched from car travel to public transport.<sup>32</sup> The Dutch city of Utrecht has planted grass and wildflowers on the roofs of bus stops to attract pollinating insects, which helps to capture air pollution particles, store rainwater, support biodiversity and protect endangered bee species.<sup>33</sup>
- Assessing health impacts. Sweden conducted a health impact assessment for construction of a new highway (Route 73), including in relation to physical activity, air pollution, toxic spillage and noise pollution, with a focus on women, children and the disabled. As a result, Sweden diverted traffic from existing communities, introduced highway regulations, banned roadside alcohol sales, and ensured appropriate road signage and pedestrian crossings.<sup>34</sup>
- Urban design for health, environmental and economic benefits. By mid-2019 the Spanish city of Barcelona had implemented three 'Superblocks' and committed to six more. Under this innovative urban and transport model, cars are banned or speed is restricted within large portions of residential blocks, with walking, cycling and open space prioritized. Implementation of 503 superblocks across Barcelona projects to avert 667 premature deaths annually, from reductions in pitrogen diovide (NO), and poing. group

#### 5. Transport ministries should strengthen partnerships for impact.

With the private sector

- To encourage innovative solutions for health, transport and the environment such as fuel cell vehicles and mobile technologies for EMS capacity.<sup>36</sup>
- To influence policy and strategy among fuel and transport industries that routinely prioritize the bottom line without necessarily considering health and the environment.<sup>37</sup>

With NGOs and academia

- To hold the transport sector to account and encourage joined up policy across health, transport and the environment.
- To strengthen evidence for action and assess the multiple impacts of interventions.

With communities

• To ensure that everyone knows their rights and is able to monitor, organize and seek redress for potential violations.



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