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The Case of Active Travel

Emphasizing Co-benefits in the Framing of Climate Policy

REDUCING GLOBAL TRANSPORTATION EMISSIONS is a key solution to solving the climate crisis—a result of the role that the transportation sector plays in contributing to the issue. The World Bank has reported that CO2 emissions from transportation fuel combustion produce roughly 23 percent of global carbon emissions. Overall, transportation is growing at an alarming rate. It is the fastest-growing consumer of fossil fuels and the fastest growing source of CO2 emissions.[1]

This trend is due in large part to the rapid urbanization of developing countries. Opportunities exist for low-carbon urban mobility to reduce emissions. The Intergovernmental Panel on Climate Change (IPCC) has stated that any reasonable chance of limiting global warming to 1.5°C will require "rapid and far-reaching transitions" in all aspects of society, from including in the transportation sector."[2]

Active travel (mainly walking and cycling) is a vital component of policies that seek to achieve a transition to low and zero-carbon transportation. In order to meet emissions reduction goals in developed and developing nations alike, climate policy must be framed to highlight co-benefits—improved human health alongside improved planetary health.

Policy initiatives designed for active travel, in a way that fosters improved human health and greater transportation equity, require a comprehensive approach. Two such model pedestrian plans, PedPDX: Portland's Citywide Pedestrian Plan and London's recently developed Walking Action Plan, are considered below. A third case study contemplates the recent air quality crisis in New Delhi, India. It serves as a cautionary example of how a transportation system centered on fuel-combustion, single-occupancy vehicles can be detrimental to both human health and economic productivity. These case studies are juxtaposed with New York City's own active travel policies. By adopting a comprehensive approach to active travel, the City would have a better chance of meeting its own stated goals of reducing carbon emissions by 80 percent before 2050, as well as creating a more inclusive and equitable transportation network.[3]

Co-Benefits of Active Travel

Action aimed at climate change mitigation can produce additional positive effects, known as co-benefits. In this case, the primary goal is climate action through cutting transport emissions, with active travel being the transportation alternative under consideration. Two co-benefits of active travel are improved health through physical activity and increased social cohesion. From a public policy viewpoint, it is often desirable to find policy instruments to achieve multiple outcomes from a single action. The co-benefits approach can be especially useful in the context of developing countries, where resources allocated to tackle climate change are often limited.[4] While principally aiming to address climate change mitigation concerns, the co-benefits frame can also address critical local problems, such as poor air quality. It provides a policy approach that helps to achieve pressing development and health goals alongside addressing climate change.

This ability of climate co-benefit policy proposals to consider multiple scales of action, from the global to the local, is important for garnering support from diverse stakeholders, from communities to individuals. Thus,

policies such as those that upgrade urban infrastructure to improve pedestrian and bike safety, through facilitating the increased walkability of neighborhoods, can create positive local change while also reducing carbon emissions.

In cities and suburban settings, active travel relies on specific urban form and design characteristics, such as supportive street infrastructure, transit accessibility, residential density, and intersection density. Without these elements, active transportation modes struggle to compete with cars, and physical activity is discouraged.[5] Since the rise of the automobile in the developed world, active travel modes have been in decline. Decades of automobile-centric policies have failed to provide basic active travel infrastructure such as sidewalks, pedestrian ramps, and protected bike lanes. Even when this infrastructure is present, more often than not, vehicle transportation is still privileged.

Considering case studies from developing nations is especially important as a majority of future urban growth will come from those areas. By the year 2050, nearly "90 percent of the future urban population growth (2.5 billion people in total) will be concentrated in Asia and Africa."[6] Whether these cities choose to build active travel strategies into their urban form or follow the unsustainable path of private car ownership promoted in much of the West, will have a critical impact on the possibility of limiting global warming to below the 1.5°C threshold.

In Active Travel, there is Equity

The co-benefits of active travel also produce greater equity, another important consideration. A study on the public health benefits of reducing greenhouse-gas emissions noted, "much investment in major road projects does not meet the transport needs of poor people, especially women whose trips are primarily local and off road."[7] In response to such inequalities, the active travel policies of today must be developed with an intersectional perspective. This can effect a positive change in groups often forgotten by traditional and exclusionary urban development practices. For example, it has been argued that "lower-income households are also disproportionately affected by key negative externalities generated by transport."[8] These negative impacts include, but are not limited to, road accidents, air pollution, and displacement. Children are also particularly vulnerable to the most harmful elements of transportation emissions, as young people breathe at a higher rate and more air per pound of bodyweight than adults.[9]

The consideration of equity when developing transportation policy also allows the reprioritization of modes under the active travel umbrella. While cycling has a key role to play in moving cities away from emissions-producing transportation modes (primarily because it allows for medium-distance car trips to be replaced), it is not a mode that is available to everyone. While the very young or very old might not have the ability to bike, almost everyone walks (with walking here understood to include the use of wheelchairs and other mobility aids).

The primacy of walking as a transportation mode can be seen in New York City where, in 2018, 30.7 percent of trips were walking trips, a higher percentage than for any other mode.[10] For users of other modes, such as public transit, walking was also a vital component of the trip, with 96 percent of transit users walking to that transit.[11] While New York City is unique in the North American context for its low rate of car ownership and high rate of walking, the model of supporting greater use of public transit through improving pedestrian infrastructure and connections to transit is the primary aim of many cities seeking to reduce transportation emissions. A recent C40 Cities report concluded that improved bus services with more extensive networks and connected pedestrian infrastructure would have the ability to "prevent the premature deaths of nearly 1 million people per year from air pollution and traffic fatalities worldwide," as well as savings in emissions and commuters' time.[12]

Moving from considering co-benefits at a community-scale to quantifying co-benefits at the level of individual health, a 2012 study provides notable results. The health benefits of walking and cycling were ascribed a quantified monetary and health benefit, in line with World Health Organization guidelines. The value benefits of physical activity substantially outweigh the costs of air pollution and injury to the pedestrian (by at least an order of magnitude). The overall net benefits of switching to active travel are substantial, both for the individual and for the broader community in which that mode shift occurs.[13]

Case Study 1: Model Pedestrian Policies in Portland, USA and London, UK

Over the last few decades, the City of Portland has attempted to balance livability, efficiency, and growth. In Portland, policies promoting compact urban growth have contributed to per-capita vehicle trips decreasing by 17 percent since 1990.[14] Greenhouse Gas (GHG) emissions were also kept at 1990 levels, despite a 16 percent growth

in population.[15] While Portland's urban growth boundary is central to these trends (increased urban density is an important factor in expanding active travel's modal share), successive and comprehensive pedestrian master plans are also key.[16]

This focus on walking has brought more than an improved quality of life; it has also had a positive economic impact. In the wider U.S. context, it has been noted that "doubling density within metropolitan regions in the U.S. can reduce vehicle-kilometers traveled by up to 25 percent while also concentrating employment."[17] Urban transport experts working in the 'New Climate Economy' project at the London School of Economics drew a similar conclusion. They projected that globally, measures to increase the modal share of walking and cycling would "expand GDP, total employment and employment in transport by 1.11 percent, 1.37 percent, and 4.14 percent respectively by 2030".[18]

Portland's pedestrian plan successfully takes an intersectional approach when considering barriers to active travel. The plan observes that in the city, inadequate pedestrian infrastructure and traffic safety concerns "disproportionately impact low-income communities and people of color, where housing cost-burdened Portlanders are increasingly concentrated."[19] The plan also makes no assumptions about walking being an equal experience for all citizens, acknowledging that a "2005 study... found that drivers are less likely to stop for Black pedestrians waiting at a crosswalk than for White pedestrians."[20]

London has also become increasingly focused on active travel, as the previous Mayor of London, Boris Johnson, emphasized cycling— establishing 'Boris Bikes' and blue-branded cycle lanes. More recently, Mayor Sadiq Khan reset the city's active transport goal, aiming for 80 percent of all journeys to be made on foot, by cycle or using public transport by 2041. Moreover, London's Walking Action Plan: Making London The World's Most Walkable City, is distinctive in that it places walking at the top of the city's transportation hierarchy: "street changes of any kind will be required to benefit people walking,"[21] states the plan at its outset.

London's Walking Action Plan also expressly addresses health through metrics beyond the traditional factors of increased physical activity benefiting health. There is an acknowledgment that walking must be pleasurable if it is to be truly sustainable. For example, it cannot negatively impact mental health through the noise and associated stress. London thus defines the goal of becoming the world's most walkable city through the mode of walking, becoming "the most obvious, enjoyable and attractive means of travel for all short trips."[22] For transit beyond brief journeys, the plan makes links essential, prioritizing connectivity and access for people walking to/from bus stops by "ensuring all new households are a max of 400 meters walk from bus/tram stop."[23]

Case Study 2: The Air Quality Transportation Nexus in New Delhi

The C40 Cities initiative reports that populations in low-and middle-income countries are most likely to be impacted by air pollution. Among cities with 100,000 inhabitants or more, 97 percent[24] failed to meet World Health Organization air quality guidelines. This is certainly the case for New Delhi, India, where air quality problems are linked to transportation and urban form. While poor air quality in New Delhi derives from fossil fuels burnt in a range of contexts, including households, industry, and power plants, automobile emissions are reported to be 40 to 80 percent of the total air pollution.[25] A solution to the air quality crisis requires a transformation of the transportation system.

Many of the air pollutants that impact health, including carbon dioxide, carbon monoxide, sulfur dioxide, and nitrogen dioxide, are also drivers of climate change. Delhi's poor air quality may have an impact on residents so severe that it could reduce their life expectancy by up to seven years.[26] The recent State of Global Air 2019 report concluded that "air pollution reduces life expectancy on average by one year and eight months globally — a loss that ranks just below that related to smoking but above that related to unsafe drinking water and lung cancer."[27]

Six solutions to New Delhi's crisis have been proposed by the non-profit organization, Help Delhi Breathe, which draws international support from organizations such as Greenpeace and Climate Agenda. These solutions encompass the production of more solar electricity within the city and the region and the creation of greater public information and awareness about the issue. Transportation, especially the role of active travel, is a major component of the solution. Help Delhi Breathe calls for improved public transit, presenting solutions such as the electrification of buses, improving "last-mile connectivity," expanding bicycle and footpaths, and creating no-car zones in the city.

The risks of air pollution do not affect all Delhi citizens equally, as risks to health are assessed differently across genders. "Smog and pollution are the top barriers that keep women from walking,"[28] reported the Hindustan Times, drawing on the 2017 Max Bupa Walk for Health Survey.[29] One-third of women questioned did not walk because of air quality issues.

Conclusion: What New York Has to Learn About Active Travel

New York City has a stated goal of achieving carbon neutrality and 100 percent clean electricity by the mid-century, as outlined in OneNYC 2050, a strategic plan that encompasses various sectors, including transportation. The plan envisions that "in 2050 New Yorkers will no longer rely on cars," [30] going on to predict that the city will become a place where "bicycle lanes abound and walking is a favorite way of getting around town."[31]

However, during his tenure as mayor to date, de Blasio has been sharply criticized for his car-centric "windshield" perspective on the City's transportation policy. To advance mobility options, the Speaker of the New York City Council, Corey Johnson, has unveiled a local law to produce a five-year plan that transforms streets, sidewalks, and pedestrian spaces.[32] The bill has ambitious designs, which include: a completely connected bike network, protected bus lanes everywhere feasible, accessible pedestrian signals at all relevant interactions, compliance with the Americans with Disabilities Act (ADA) accessibility at all intersections, and "within the first two years, create and maintain one million square feet of pedestrian space."[33] As Streetsblog New York City reported:

> The bill sets priorities at every level. Even parking policies for delivery trucks, according to the bill, should be based not on the immediate needs of drivers, but the "safety of pedestrians and individuals using bicycles; access to and use of public transit; reduction of traffic congestion and emissions; and improving access to streets, sidewalks, public spaces, and mass transit for individuals with reduced mobility, hearing, or visual impairments.[34]

This is being dubbed Corey Johnson's "Master Plan," inclusive of many ambitious elements that will pave the way for more active travel. It includes provisions for pedestrians specifically, such as a focus on sidewalks and public space. What is lacking, however, is a coherent vision

At the corner of West 41St and 8th Avenue in Manhattan street design reflects competing mode uses yet several interventions are clearly responding to active travel needs | Photo by Amy Howden-Chapman

for pedestrian travel of the type outlined in Portland's plan, or the focus on health outlined in London's plan. The piecemeal attention given to pedestrian activity in the bill is symptomatic of walking still being perceived as an appendage to public transit and biking, rather than as a sustainable transportation mode in itself.

In the New York City context, there is currently a chance for a reframing of pedestrian transportation. Such a reframing could follow Portland's example that *everybody is a pedestrian*, and London's example that *all street changes must benefit people walking*. Simultaneously, there is a lesson to be learned from developing world contexts such as New Delhi. Although not as severe, New York also faces severe air quality challenges. Poor air quality is not experienced equally across the city but instead is worse in low-income communities and communities of color such as the South Bronx, where there is a concentration of expressways, waste-transfer stations, a sewage-treatment plant, and truck traffic associated with food delivery. The residents of such neighborhoods suffer accordingly. Of the ten neighborhoods in New York City with the highest rates of hospitalization for asthma, a disease exacerbated by poor air quality, five are located in the Bronx.[35]

Active travel, when considered through the lens of co-benefits, produces a focus on how transportation mechanisms can improve individual health, while also having broader social benefits, such as better air quality, greater social cohesion, and increased equity. This co-benefits approach also increases the opportunity for diverse stakeholders to support policy action, especially those who might not otherwise be in favor of adopting or funding climate-focused policies. With such an approach, the overall likelihood that transportation emissions reductions initiatives will be adopted and successfully implemented increases.

Policies that promote active travel, especially those that emphasize walking, have co-benefits visible at various scales. At the individual level, health benefits are deriving from both air quality and greater physical activity; at the community level, improved air quality, reduced noise and congestion, and greater social cohesion; at the city scale, increased economic activity and vitally; and finally at the global scale, reduced greenhouse gas emissions.

In October 2019, the New York City Department of Transportation closed 14th St to passenger vehicles creating a transit and truck priority corridor | Photo by Amy Howden-Chapman

Notes

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