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How to electrify African transport

Transport investments will be crucial in determining whether Africa follows an equitable, zero-carbon development path

Many transport experts think that we are succeeding in decarbonizing the sector: electric vehicles are taking off, public transport use is increasing and cities worldwide are promoting cycling. But this sense of success is illusory. Globally, transport-related greenhouse-gas (GHG) emissions are increasing faster than ever, despite technological advances and investments in decarbonisation. This is especially so in Africa.

Transport investments will be crucial in determining whether Africa heads toward an inequitable, carbon-heavy development trap or a much fairer zero-carbon path. To achieve full decarbonisation, development banks and African governments should move away from capital-intensive rail and bus rapid transit (BRT) projects, and toward enabling micro-entrepreneurs to build effective, electrified public transport networks. The solution may lie in fostering impact-driven transport network companies (TNCs).

Although Africa is responsible for some 3 per cent of cumulative global carbon dioxide emissions, it is urbanising at lower levels of per capita GDP than any other region. As the continent's cities continue to expand, Africans increasingly need to travel – by motorised public transport, motorcycles, or private cars – in order to attain the same level of prosperity as people elsewhere.

Supporting micro-entrepreneurship

Micro-entrepreneurs are meeting many of those transport needs by investing in vans and providing informal bus services that connect the urban dwellers with schools, hospitals and jobs. Such operations have helped Africa's cities to grow, generated significant employment and will continue to dominate public transport for a long time.

But the bus drivers, some of whom own their vehicles, are short of capital

and rely on low-cost, low-tech, high-polluting vans. Passengers aspire to own a private car and those who can invest in a car-centric lifestyle, mimicking a development pattern that has failed elsewhere. A development trap thus kicks in: African cities remain crowded, disconnected and costly, reducing social mobility and entrenching economic inequality.

In Egypt, for example, the Cairo Metro, which is majority-financed by international development agencies, receives 92 per cent of national investment in public transport.

Fortunately, a range of urban and technology interventions can lead to a radically different development pathway. The key is to re-imagine African streets and move away from the current car-focused design. We should emphasise public transport and give micro-entrepreneur bus operators priority lanes in exchange for meeting minimum vehicle-quality standards. That implies electrifying van-buses and integrating them within multi-modal urban transport systems.

Avoiding big projects

Achieving this transition will require development banks and governments to focus less on capital-intensive investment projects, which, while helpful and desirable, cannot and will not solve Africa's transport problem. Successful implementation of credit-backed metro and BRT projects in African cities is in doubt, owing to the current debt distress aggravated by the Covid-19 pandemic. These schemes are at risk of being completed too late and thus having too little impact as urbanisation proceeds apace.

In Egypt, for example, the Cairo Metro, which is majority-financed by international development agencies, receives 92 per cent of national investment in public transport. This is one of two national projects, along with the Sustainable Transport Project (led by the United Nations Development Program), designed to mitigate Egypt's CO2 emissions and use international climate-financing schemes. But both projects combined cut annual CO2 emissions by less than is added each year as more people travel increasingly far. Capital-intensive public transport projects will neither reform nor decarbonise African transportation.

Policymakers and lenders should instead focus on how venture capital-backed TNCs such as Uber (and its Middle Eastern subsidiary Careem), DiDi and Lyft have revolutionised the traditional taxi industry with their tech-enabled mobility platforms. This transition has resulted in significant operational efficiencies and might catalyse the electrification

of the entire sector. Uber recently pledged that all its rides in North American and European cities will take place in zero-tailpipe-emission vehicles by 2030 and plans to commit USD 800 million to help hundreds of thousands of micro-entrepreneur drivers buy battery electric vehicles (BEVs) by 2025.

Development banks need to rethink

In Africa, home-grown venture capital-backed TNCs such as SWVL in Egypt and SafeBoda in Uganda are active in the van and motorcycle markets, respectively. But these firms offer a premium service and are not designed to scale up and become the transport providers that African cities need to prosper.

These companies have exercised meaningful control over micro-entrepreneurs operating within their networks in order to guarantee minimum quality standards, including by setting base fares, dictating which routes to take and marketing to affluent consumers. By treating their drivers as independent contractors rather than employees, they have avoided the cost of providing benefits like health insurance. A new model of private TNCs could help revolutionise informal bus services for the masses and achieve decarbonisation. Public support and regulation of private TNCs could help drivers gain more benefits and protections, making the transition beneficial for consumers, operators and the environment alike.

We need to rethink Africa's transport infrastructure and enable a transition that makes sense for hundreds of thousands of workers, some of whom are also micro-investors.

Development banks and governments should therefore invest in street infrastructure, including dedicated bus lanes, stops and electric vehicle charging stations, and they should finance vehicle upgrades by covering the cost difference between low-tech vans and BEVs. TNCs would be able to channel the investments, work with public bodies to implement metropolitan-level multi-modal transport networks and monitor and enforce quality standards using innovative, scalable technology.

Decarbonising African cities

We need to rethink Africa's transport infrastructure and enable a transition that makes sense for hundreds of thousands of workers, some of whom are also micro-investors. Achieving public-service goals will require governments to guide the sector, harnessing private-sector

informal transport providers and TNCs while absorbing temporary risks and cost differences.

Public and international capital can close the cost gap that drivers will face in making the switch to BEVs and support them through the current pandemic-induced shock, which has led to an average decrease of 40 per cent in public transport use in African cities. Private capital would realise efficiencies and distributed public micro-capital would allow many people to acquire a stake in an industry with widely shared gains.

Transforming African transport will require nothing less than the elimination of GHG-emitting vehicles. Let's aim for that and help African cities to become better connected drivers of clean and equitable development.

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