



FINANCING TRANSPORT INFRASTRUCTURE

Which way for non-motorized transport?



Share the Road Programme

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Introduction

The full benefits of non-motorized transport (NMT) cannot be reaped unless it is planned and budgeted for. However, a great barrier to financing non-motorized transport is the lack of guidance or models for determining how much should be allocated or budgeted to ensure significant development of non-motorized transport.

In most cases, transport budgets are allocated for infrastructure development without clearly delineating the amount meant for motorized transport infrastructure and the share for non-motorized transport. Since the priority in road construction has always been the motor carriageway, in such cases the remainder is what is used for non-motorized transport infrastructure.



In case of budget constraints, then construction of non-motorized transport is easily forfeited. Often, non-motorized transport infrastructure comes as an afterthought resulting into some pavements—mostly for walking being fixed on the edge of the road and mostly without observing the standards.

Cycling is most disadvantaged in infrastructure development. While significant attempts are made to provide infrastructure for walking, cycling is often overlooked and hence in most countries cycle tracks are hard to come by.

There is need for explicit models and guidance for financing non-motorized transport in order to maximize on the benefits of walking and cycling. This paper analyzes the existing models for financing non-motorized transport and explore possible innovative methods.

Barriers to non-motorized transport (NMT) financing

The barriers to non-motorized transport financing are numerous. Surprisingly, most of the key barriers are mainly related to planning priorities rather than the lack of funds. The following are some of the key barriers:



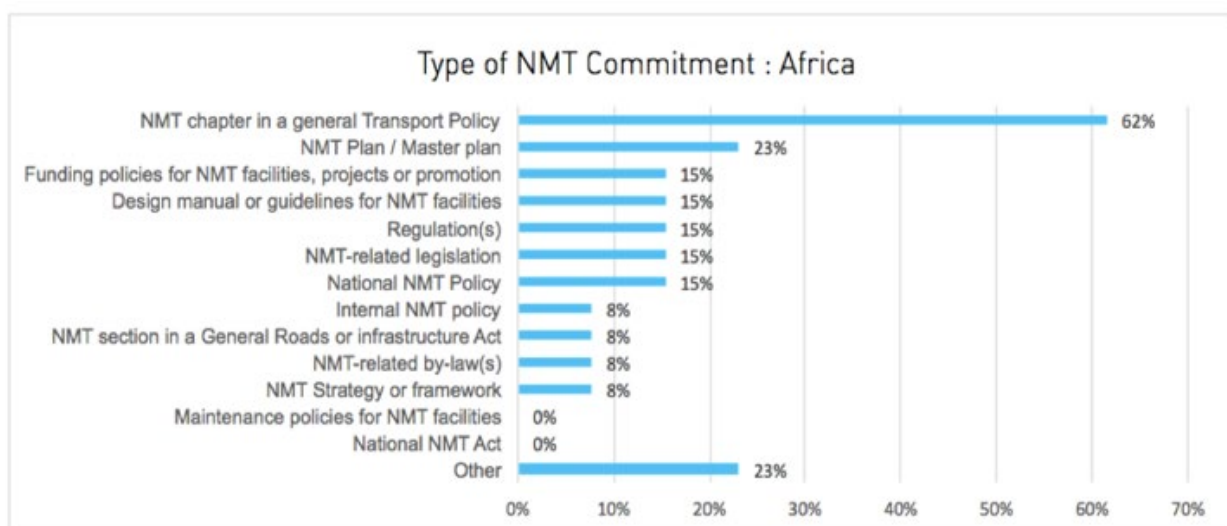
Perceptions

Walking and cycling are generally viewed as outdated and as the modes of the poor. A car is largely viewed as a status symbol and everybody in both developed and developing countries is eager to own one. These perceptions are deeply entrenched in our societies even in those responsible for planning and development of transport infrastructure. This affects the financing patterns leading to a focus in developing infrastructure for moving cars rather than people. Even the citizens themselves do not demand for walking and cycling infrastructure. For instance, we have heard of cases where citizens demonstrated because a road is flawed with pot-holes but we never hear of demonstrations against the lack of non-motorized transport infrastructure.



Transport plans and policies

Motorized transport takes center stage when it comes to transport planning. This is evidenced by the fact that most countries do not have specific transport policies or master plans for non-motorized transport (See Figure 1). In most cases non-motorized transport is only mentioned in transport policies without clear details on how it should be developed. When there are no policies for non-motorized transport, then there is no basis and guidance for financing it.



Source: UNEP (2016). *Global Outlook on Walking and cycling*

Political will

A great set-back for non-motorized transport financing is the lack of political leaders who can champion the needs of those who walk, cycle or use wheelchairs. Even where policies for non-motorized transport exist, there lacks political leaders who believe in non-motorized transport as a viable mode of transport. The success in some of the progressive countries that have made headways in developing non-motorized transport infrastructure is largely attributable to the passionate political champions, for instance, the former mayor of Bogota, Enrique Penalosa and the Mayor of London, Boris Johnson. [See Box 1.](#)

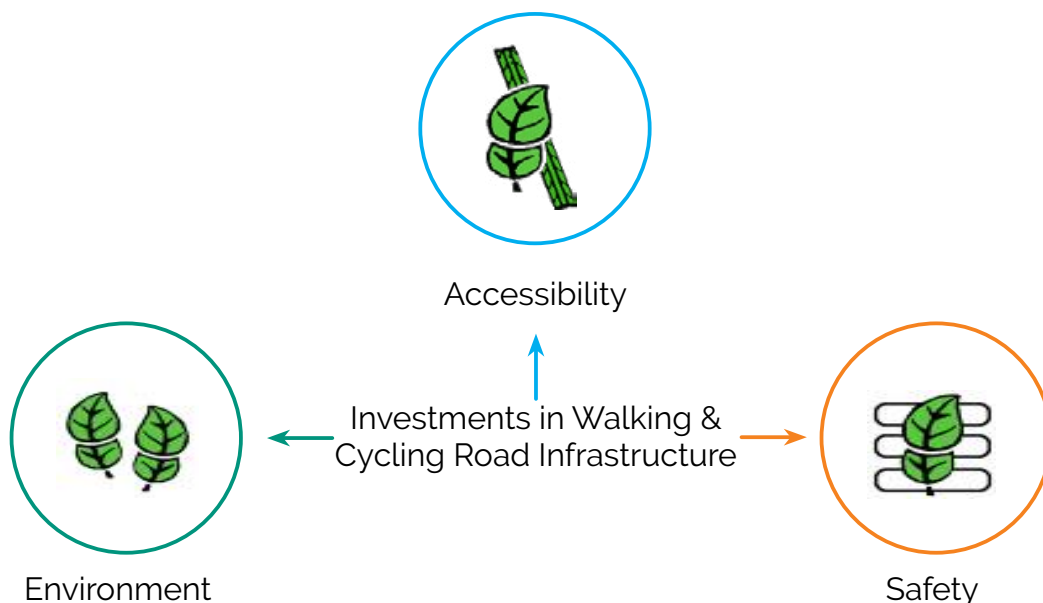
Box 1: Political will in London

Boris Johnson, the Mayor of London spearheaded the implementation of the Barclays Cycle Hire (BCH) scheme in 2010. The launch of the scheme was a great success and has transformed the way people make short trips around central London. A modal shift was registered six months after its launch with 35% of those who usually used the tube, 29% of those who usually walked and 29% who usually took the bus shifting to cycling.

Why finance non-motorized transport?

“A city is more civilized, not when it has more highways, but when a child on a tricycle is able to move about everywhere with ease”. Enrique Penalosa ~ *former Mayor, Bogota*

The UN Environment Share the Road Programme¹ summarizes the key reasons why governments and donors should finance non-motorized transport as follows:



¹Share the Road is an initiative by UN Environment and FIA Foundation developed with the aim of promoting a shift in transport priorities from investing in moving cars to moving people

Environmental benefits– Walking and cycling reduce energy usage, carbon emissions and air pollution.

Road transport accounts for about 25 percent of world energy demand. Greenhouse gas emissions from the transport sector are the fastest growing with a projected growth rate of 2.5 percent annually until 2020 (UNEP, 2010). Encouraging use of NMT is an effective contributor to reversing this trend. Evidence shows that cities which have a large share of over 55 percent on average in public transport, walking and cycling emit 2.4 fewer tones of CO₂ emissions per year from travel, compared to cities where private motorization is prevalent (UITP, 2006)

Climate change and its impacts is a major threat to humanity in recent times. Greenhouse gases are a major contributor to climate change, hence investing in low carbon modes such as walking and cycling is important in the fight against climate change.

Safety – Appropriate NMT infrastructure saves lives

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Accessibility – Low cost mobility

The poor cannot afford motor vehicles and at times public transport fares limit their mobility options to NMT. Inadequate investment in NMT has economic impacts on household expenditures. Urban households in developing countries spend approximately 8 to 16 percent of their household income on transport and for the poorest households in large cities this share goes up to 25 percent (UNEP, 2008). Non-motorized transport offers easy and affordable access to destinations.

Further, there are global calls and commitments to finance non-motorized transport. The Sustainable Development Goals (SDGs) call for countries to reduce by half the number of global traffic deaths and injuries. This cannot be achieved without establishing non-motorized transport in order to ensure protection of the most vulnerable road users.

Mother cycles through Amsterdam with her children

image courtesy of cupofjo.com



Unlike motorized transport, the space requirement for non-motorized transport is limited. Hence financing non-motorized transport infrastructure is much cheaper than financing motor carriageways and parking lots. (See Box 2)

Box 2: Average USD capital cost of investment per mile

1. BRT: \$13.5 million
2. LRT: \$34.8 million
3. Bike Lane: \$133 thousand
4. Bike Path: \$239 thousand
5. Sidewalk: \$184 thousand



Which way non-motorized transport financing?

This section explores some of the current practices in non-motorized transport financing and suggests possible models or guidance for financing:

Committing a fraction of the transport budget

This is the most common practice whereby a certain percentage or fraction of funding for the transport infrastructure budget is allocated to non-motorized transport. In Africa for instance, there is a general recommendation that a minimum of 10 percent of all infrastructure budget should be allocated to non-motorized transport. This was decided at the Better Air Quality Workshop in Africa in 2008 where Government Ministers produced the Eastern Africa Regional Framework Agreement on Air Pollution. The Agreement recommended that, "At minimum 10 percent of infrastructure costs should be dedicated to NMT infrastructure and the focus should be safety." (UNEP, 2008).

UN Environment Share the Road Programme has since advocated for the implementation of this Agreement by advocating for governments and donors to set aside at least 10 percent of infrastructure budgets to development of walking and cycling facilities.

The practice of committing a fraction of the finance is widely applied. In Nairobi, Non-motorized transport Policy recommends that 20 percent of transport infrastructure budget for Nairobi County be allocated for non-motorized and public transport. For the year 2015/2016, the County Government implemented this policy by allocating 18.2 percent out of the 20 percent to non-motorized transport and public transport.

A key strength of this model is that it lays a commitment on the government/financing agent and ensures that non-motorized transport is factored in the transport budget. However, the model is not without some setbacks. These include:



There lacks a basis or a justification for reaching at the recommended fraction.



The recommended fraction is often inadequate and not proportional to the infrastructure requirements of non-motorized transport



Full allocation of the recommended percentage is not guaranteed, for example in the case of Nairobi County

Some of the innovative ways for enhancing the effectiveness of this model include setting a basis for determining the suitable allocation for non-motorized transport. This could be based on:

1. Modal Share

The modal share gives an indication of the infrastructure needs. In most developing countries, the modal share of non-motorized transport is way higher than that of motorized transport. For instance, In African cities, walking alone constitutes 30-35 percent of all trips (UN HABITAT, 2013). This implies that infrastructure development should prioritize the needs of non-motorized transport users. It is important to consider factors such as the development plans of a city or country while using modal share to inform transport investments. For instance, a city with a high modal share of motorized transport but desires to encourage a modal shift (due to concerns such as energy consumption, environmental pollution), would invest more in modes such as non-motorized transport though they are the minority.

2. Infrastructure needs assessment

This would entail auditing the existing infrastructure vis a vis the mobility needs of the populations. Through such an audit it is possible to establish the quantity and quality of the available infrastructure and identify how much more is needed. Infrastructure audits are also beneficial as they also help establish the physical status of the existing infrastructure and informing the needs for maintenance. Once the infrastructure needs are established, it is then possible to plan and allocate funding accordingly.

Raising finance



Since walking and cycling is often perceived not to generate direct revenues for government, NMT infrastructure needs are sometimes funded by raising financing from other sources other than government allocation. Usually this is financed from the public sector through taxation and long term loans from international development banks.

Other possible sources for raising finance for non-motorized transport include: Trade licenses for businesses along proposed non-motorized transport streets; rent from businesses on existing on-street parking spaces; direct developer construction and maintenance; community contributions in form of labor or materials for construction and maintenance; vehicle parking fees and fines.

Other possible innovative financing guidance for non-motorized transport financing



- **Cost benefit analysis**

Analyzing the costs and benefits of investing in a non-motorized transport is useful determine the amount of financing to allocate for non-motorized transport infrastructure. Cost benefit analysis involves analyzing the amount of investment vis a vis the inherent returns. The benefits of non-motorized transport are however not easy to quantify as they are mainly in health, environment and accessibility.

The Share the Road Programme in collaboration with University of Cape Town developed a Non-Motorized Transport Project Appraisal Tool which helps quantify and calculating the costs and benefits of non-motorized transport in developing countries' context. The Tool takes into account the wide range of benefits in health, social, economic and environmental in order to determine the costs and benefits related to non-motorized transport investment

Box 3: Economic Benefits of Cycling in the EU-27

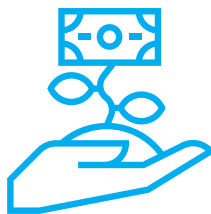
“Cycling not only changes the face our cities for the better, it also makes much sense in economic terms” ~ German Chancellor Angela Merkel

- Annual economic benefits in the EU-27 are estimated at about € 205.2 – 217.3 bn (in 2010), based on internal and external benefits of cycling as well as turnover in relevant industries;
- Cycling in the EU therefore has an annual economic benefit of about € 410 – 434 per capita
- Direct internal and external benefits are estimated at € 143.2 – 155.3 bn (Health benefits of cycling; Congestion-easing due to cycle use; Fuel savings due to cycle use; Reduced CO₂ emissions due to cycle use; Reduced air pollution due to cycle use; Reduced noise pollution due to cycle use); industry turnover estimated at € 62 bn, thereof the tourism industry (€ 44 bn) and the bicycle industry (€ 18 bn).



• Goal-oriented financing

Financing for non-motorized transport can be informed by the general development goals or specific transport plans and targets. Goals and targets normally have a specific timeline; the time period for achieving the goal dictates the budget allocations. Some of the goals that could dictate the amount of financing are for instance, reducing the number of traffic fatalities among vulnerable road users by a certain year; goal to achieve a modal shift to low carbon transport modes e.t.c. Investment in cycling for instance, in the Copenhagen city is driven by their ambitious goal of becoming a carbon neutral city by 2025 (City of Copenhagen, 2014). Between, 2006 and 2024, the city planned USD 200million in cycling facilities with an aim of having more than 50 percent of its residents biking to work and school.



• Integrated financing

Large-scale benefits can be achieved if financing for non-motorized transport is integrated with other infrastructure particularly for public transport. Non-motorized transport is principally important for first and last mile connectivity to public transport. For every investment in public transport such as bus rapid transit, light rail e.t.c it would be most effective if a relevant investment in walking and cycling infrastructure is made in parallel. This would result into greater efficiency for public transport.

Conclusion

Financing non-motorized transport is essential for the well-being of its user and wider benefits such as accessibility and economic development. In most cases, non-motorized transport financing is haphazard and lacks a basis for determining how much should be invested or allocated to walking and cycling infrastructure.

This paper has suggested various methods which can be used to guide investments in walking and cycling. It is important to consider such methods with regard the country or city context in order to make the most suitable investment for non-motorized transport.

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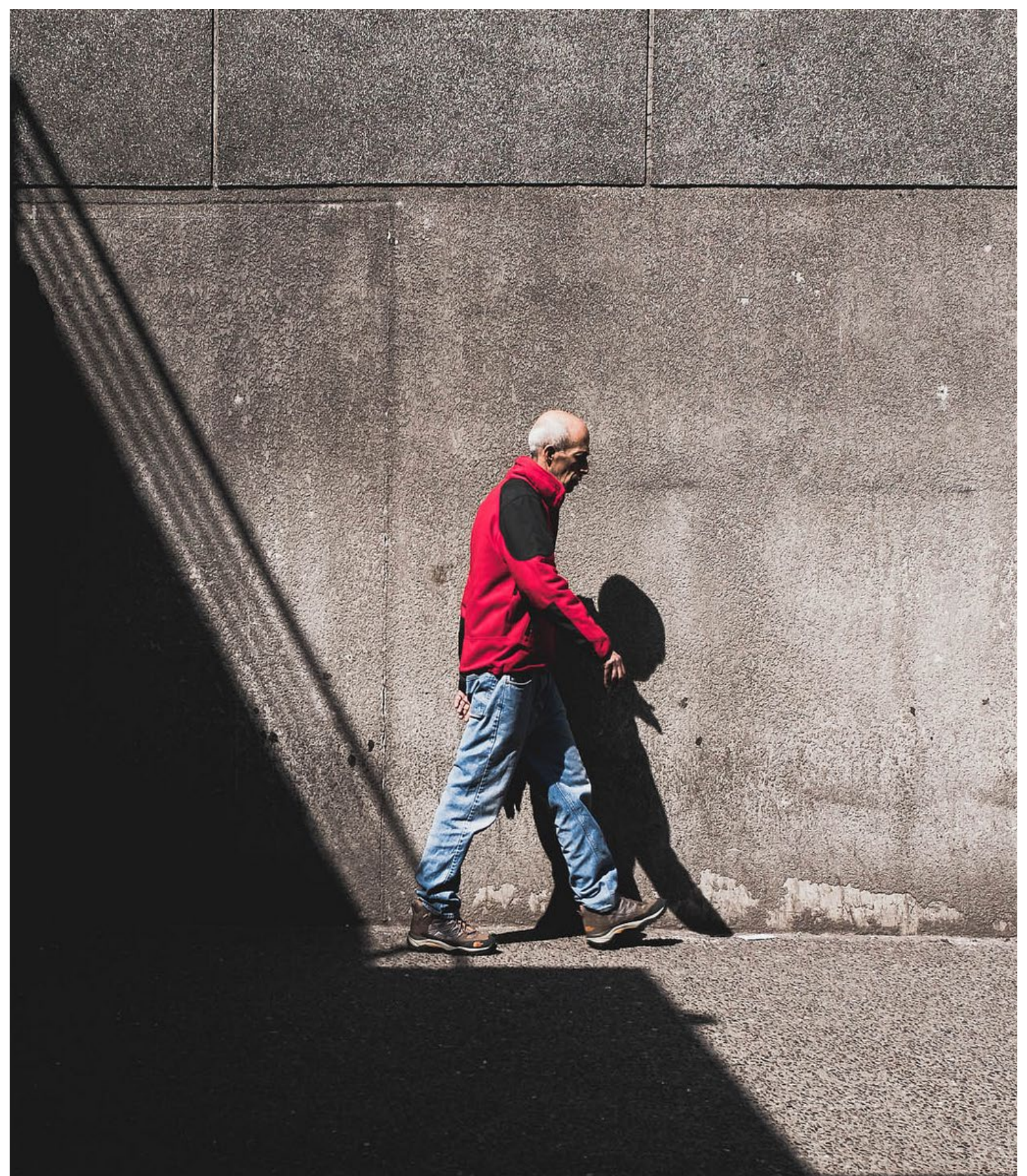
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