

# SUSTAINABLE TRANSPORT AND URBAN HEALTH:

## Lessons from Latin American Cities



Latin America's innovative urban transportation policies, technologies, and interventions have delivered important mobility and accessibility benefits and improved health and wellbeing.

**This experience can inspire policy change in other cities around the world**

Latin America is highly urbanized and unequal with serious urban health and sustainability challenges

Other developing countries may follow the same pathway of rapid urbanization in limited resource settings

19 of the world's 30 most unequal cities are in Latin America and > 80% of the population lives in urban areas

**Why is Learning About Mobility Policies in Latin American Cities Important?**

It offers lessons on how to implement effective policies, technologies and interventions

Latin America is a major hub for innovation in urban transport and mobility policies that promote efficiency, prioritize people over vehicles and reduce spatial and social segregation

# Glossary

**Sustainable transport:** The provision of services and infrastructure for residents and visitors to access destinations in a manner that is safe, affordable, efficient, inclusive and resilient, while minimizing environmental impacts for current and future generations.<sup>1</sup>

**Active transport:** Any type of human-powered transportation, including walking and cycling.<sup>2</sup>

**Urban health:** The description of the health of urban populations as a whole and as particular subgroups as well as the understanding of the determinants of population health in cities.<sup>3</sup>

**Ciclovía Recreativa:** Open Streets. Multi-sectoral programs in which streets are closed to motorized vehicles and open for individuals for leisure activities.<sup>4</sup>

**BRT:** Bus-Rapid-Transit. Bus-based transit system that may include dedicated lanes, traffic signal priority, off-board fare collection, elevated platforms and enhanced stations.<sup>5</sup>

**Aerial trams:** Transport lift systems integrated into the city's public transport network that provide mobility options for those living in hillside neighborhoods.<sup>6</sup>

**Transportation demand management policies:** Policies and measures that reduce excessive demand of transport services and infrastructure.<sup>7</sup> Examples include vehicle restrictions, carpooling, working remotely, parking pricing and regulations, congestion pricing<sup>7</sup>, and Ley Pro-Bici.<sup>8</sup>

**Mobility:** The time and costs required for travel. Mobility is higher when average travel times, variations in travel times, and travel costs are low.<sup>9</sup>

## Innovative Transportation Policies and Interventions in Latin American Cities: Beyond Traditional Systems



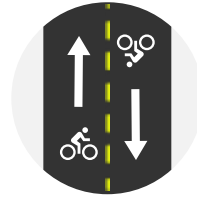
### BRT

1,912 km in 67 cities in 13 countries



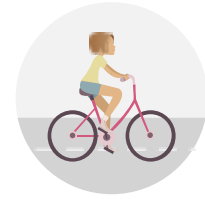
### AERIAL TRAM

47 km in 7 cities in 4 countries



### BICYCLE FACILITIES

3,486 km in 51 cities in 10 countries



### CICLOVIAS RECREATIVAS

at least 800 km in 457 cities in 16 countries



### TRANSPORTATION DEMAND MANAGEMENT POLICIES

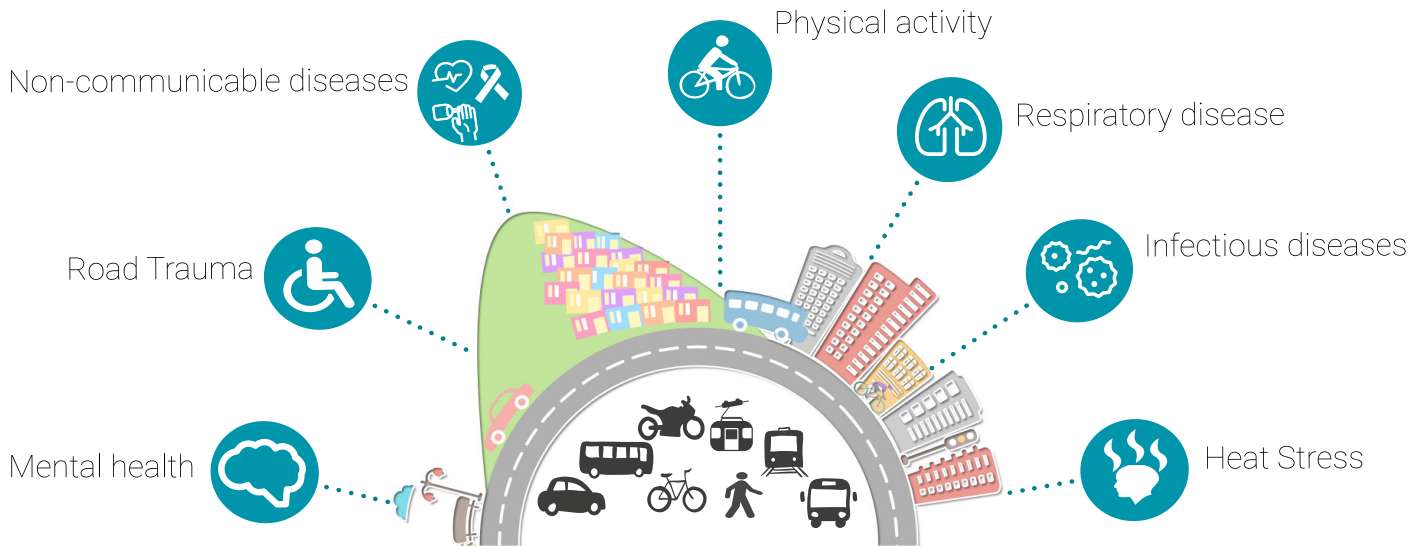
12 cities in 5 countries



### METRO/SUBWAY/LIGHT RAIL

1,041 km in 19 cities in 7 countries

## The decisions cities make about transport affect health and health behaviors in many different ways<sup>10</sup>



# Opportunities and challenges for effective implementation of sustainable transport policies

Connectivity between transportation modes can enhance the travel experience and lead to improved outcomes for sustainability and health.

Pedestrian and cyclists are often after-thoughts in the planning for transportation options.

Investments in sustainable transportation offer more than solely easier mobility: they can usher in myriad social, health and economic benefits, as demonstrated by the Latin American experience.

Funding is often lacking for innovations. This is partly due to limited city and national budgets, and often reinforced by the pervasive view that public transportation modes must cover their operating costs.

The financial outlook for innovation in sustainable transportation can be made both more attractive and more accurate by accounting for the wide range of benefits and cost savings such interventions bring about.

Evaluating, quantifying, and accounting for the broader impacts of sustainable mobility interventions requires the cultivation of alliances across sectors (e.g., health, transport, urban planning).

Better enabling various publics to participate in the conceptualization, design, planning and implementation of transportation projects will improve both quality, and the equitable distribution of benefits.

Planning and implementation in innovative transportation projects is frequently top-down, sometimes with unequal and undesirable impacts on marginalized populations.

The successes and failures of transportation policies and interventions offer critical opportunities to fine-tune approaches, redirect efforts, and improve projects. High-quality data and rigorous evaluation allow for better understanding of whether projects and policies are having their intended effects.

The public health sector has rarely participated strongly in decision-making for transportation policy, despite the linked impacts of mobility on health.

Strong political leadership and a highly competent mid-level staff body allow for the effective implementation of transportation innovations. A solid staff also strengthens the project against attacks from detractors and those unfamiliar with new and innovative policies and projects, and provides continuity when elected officials transition.

Transportation projects are rarely evaluated after implementation, limiting potential learning. Continuous, disaggregated data collection in partnership with non-profit, academic, and multi-lateral organizations can be critical in supporting policy and project evaluations.

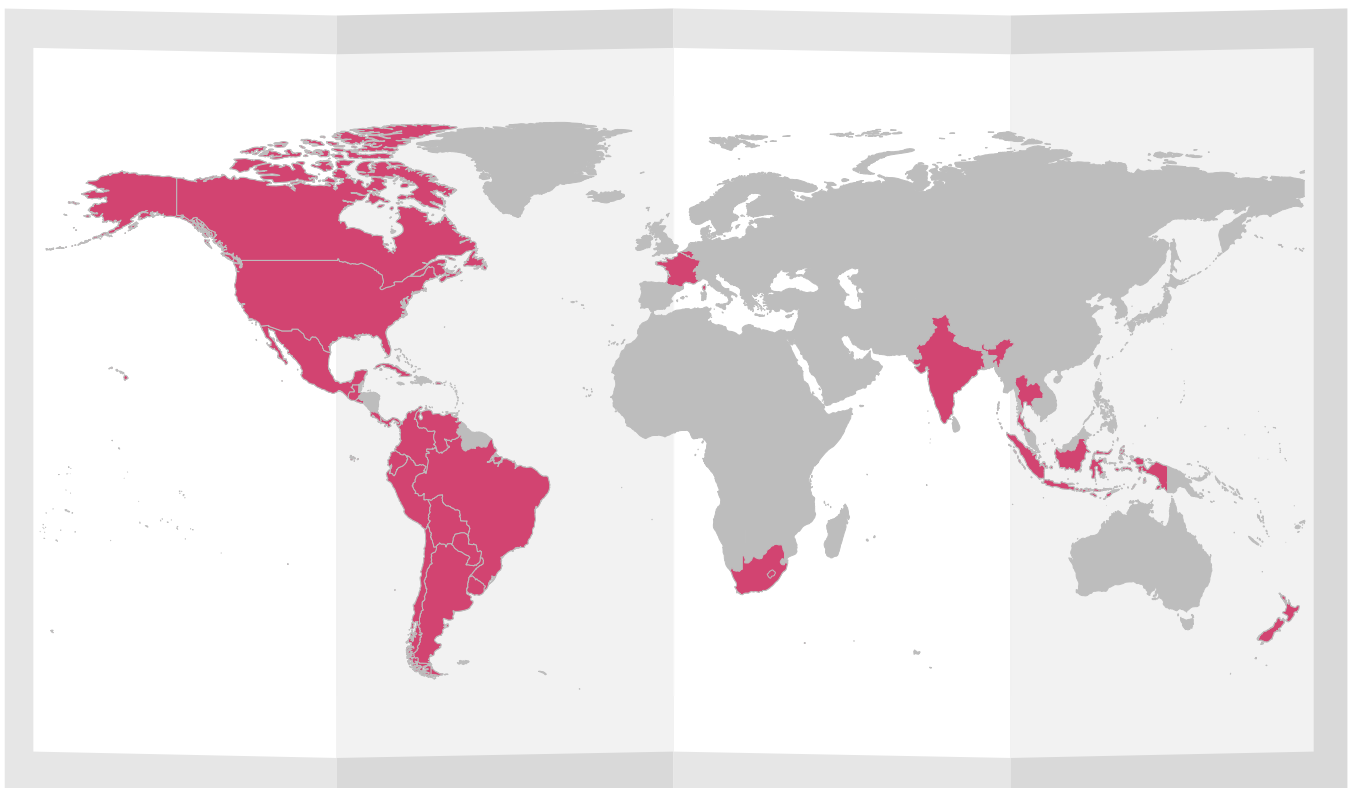
Public demand for a long-term perspective can spur effective political and institutional action, but is often lacking. Good data and appropriate dissemination mechanisms can help elicit this demand, as can the empowerment of municipal and community politicians, who are naturally close to their constituents.

## **Sustainable Transportation Case study: Ciclovías Recreativas have gained popularity in every continent<sup>11</sup>**

**Ciclovía programs were created in Latin America to promote recreation, health behaviors and sustainable transportation. The experience of the Ciclovía of Bogotá offers valuable lessons for bringing innovations in transportation to a global audience:<sup>4,11</sup>**

- Colombian officials (champions) have travelled the world to speak about Bogotá's urban transformation and the success of the Ciclovía.
- The creation of a transnational network of sustainable transportation and public health that have become advocates of Ciclovía as a way to promote physical activity.
- A network of Ciclovía experts that shared technical and administrative details needed to organize an event in other contexts.
- South-south exchange (e.g., sister cities) encourages adoption of the Ciclovía model in similar socioeconomic environments in different parts of the world.
- Dissemination of both scientific evidence and compelling narratives of the success of the Ciclovía model to policymakers and the public (e.g., Laws like Obesity Law and Pro-bici law).
- New social media platforms enable easy sharing of photos and videos of the Bogotá Ciclovía, raising awareness worldwide.
- Interaction between transportation, recreation, and health sectors to promote sustainable transportation and health behaviors.

### **Countries with Ciclovías**



# Successes and Challenges of BRT and Aerial Trams in LAC

	BRT		Aerial Trams	
	TransMilenio	Metrobus	Metrocable	Teleférico do Alemão
Information	<ul style="list-style-type: none"> <li>Bogotá</li> <li>Inaugurated in 2000</li> <li>Currently 113km</li> <li>2.3 million daily trips</li> </ul>	<ul style="list-style-type: none"> <li>Mexico City</li> <li>Inaugurated in 2005</li> <li>Currently 105 km</li> <li>0.9 million trips per day</li> </ul>	<ul style="list-style-type: none"> <li>Medellín</li> <li>Inaugurated in 2004</li> <li>Five lines (1.4 km -4.6km)</li> <li>1 -20 thousand passengers per day</li> </ul>	<ul style="list-style-type: none"> <li>Rio de Janeiro</li> <li>Inaugurated in 2011</li> <li>Line Length 3.5 Km</li> <li>12 thousand passengers per day</li> </ul>
Successes	<ul style="list-style-type: none"> <li>Physical activity promotion (12 minutes more of physical activity among users vs. nonusers)<sup>12</sup></li> <li>Travel time savings</li> <li>Permanent stations</li> <li>Increased property values by 1-10%<sup>13-15</sup></li> <li>Decreased crashes<sup>16</sup></li> </ul>	<ul style="list-style-type: none"> <li>Physical activity promotion (29 minutes more of physical activity after BRT implementation)<sup>18</sup></li> <li>Travel time savings</li> <li>Permanent stations</li> <li>Streetscape redesigned</li> <li>Reduction of 30% in commuters' exposure to PM 2.5<sup>19</sup></li> </ul>	<ul style="list-style-type: none"> <li>Reduction in spatial segregation<sup>22</sup></li> <li>Fewer homicides (66% greater reduction in neighborhoods with Metrocable vs. without)<sup>23</sup></li> <li>More reliance on the police</li> <li>Increment of collective efficacy</li> <li>Travel time savings<sup>24</sup></li> </ul>	<ul style="list-style-type: none"> <li>Travel time savings<sup>26</sup></li> </ul>
Challenges	<ul style="list-style-type: none"> <li>Overcrowding</li> <li>Users exposed to pollutant concentrations up to 6 times higher than pedestrians and cyclists<sup>17</sup></li> <li>Petty theft</li> <li>Requires operating subsidies</li> </ul>	<ul style="list-style-type: none"> <li>Limited network</li> <li>Lack of integration with bike paths</li> <li>Lack of transparency in public-private concession contracts<sup>20</sup></li> <li>Overcrowding during peak time<sup>21</sup></li> </ul>	<ul style="list-style-type: none"> <li>Long waiting time at stations<sup>25</sup></li> <li>High fares<sup>25</sup></li> <li>Difficult to expand to other areas of the city due to costs<sup>24</sup></li> </ul>	<ul style="list-style-type: none"> <li>Unreliable service<sup>27</sup></li> <li>Poses risks to neighborhoods architectural legacy<sup>28</sup></li> </ul>

## Acknowledgements



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