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## How can spatial design promote inclusivity, gender equality and overall sustainability in Costa Rica's urban mobility system?

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### Abstract

Today, 70% of the world's poor are women. Women walk distances that are between 11-16% longer than men, make approximately 15% more journeys than men and only 3% of them commute by bicycle. In Latin America and the Caribbean, women are the main users of public transport. While using it, they are faced with issues such as sexual harassment or lack of infrastructure to fit their needs. In other regions, however, the number of new drivers is rising twice as quickly among women as it is among men, sometimes outnumbering the number of male drivers.

Costa Rica is a country with important mobility issues. This is taking a toll on its economy, competitiveness and environment. The poor public transport system and the absence of adequate land planning policies has led the city to expand and for an alarmingly increased number of –privileged- Costaricans to use private vehicles as their main means of transportation. As a result, 45% of the country's emissions derive from transport, and pollution levels in the Great Metropolitan Area are currently above WHO limits.

As a country that takes pride in being a leader in sustainability, this paper proposes including gender perspective in design criteria for mobility solutions as a reminder that without social equity and inclusivity, the country cannot claim to be truly sustainable. Based on interviews and international case study analysis about gender-related mobility needs, it adjusts them to the local context of a developing, tropical country. It includes elements such as safety, vigilance, lighting, seat distribution, the inclusion of women in decision making and in operation of transport facilities and vehicles. These solutions can bring Costa Rica's mobility system closer to sustainability by becoming more inclusive and considerate of women's needs and reducing the need for them to resort to private mobility.

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## 1. Introduction

As of today, cities are growing in population, which has led to an accelerated process of changes that require new solutions in order to keep the growth but in an efficient way. Urban mobility has become one of the pillars of this development and the implementation of integrated systems have become familiar in Latin America. Cases such as Curitiba's Bus Rapid Transit system, the Transmilenio in Bogotá and also the Transmetro in Guatemala are now studied for their high impact and efficiency, however, the gender perspective has been a barely addressed subject. Therefore the bus stations designed as part of those huge transportation projects did not take into consideration the needs of women, who seem to be the biggest part of society making use of public transportation.

From the second half of the 20th century it has become popular the need to create safe spaces for women, because of their roles and space requirements that differ to those of the male population. However, the progress towards this topic has not been as significant, since most of these theoretical initiatives were not translated into a design guidelines applicable to cities. Vienna and the Basque country are two examples of cities that actually were able to develop such projects, however in Latin America the gender perspective's projects for urban space and mobility have been almost non-existent. According to the latest data published at the beginning of 2016 by the IDB 50% of public transportation users in Latin America and the Caribbean are women. As of now the 70% of the population living in poverty around the world are women, without access to private vehicles acquaintance. In addition to that, only 57% of the total female population has a driver's license and they walk distances between 11-16% longer than men. (IDB, 2016) These numbers represent a disadvantage for women, since most of the cases when there is someone within the family who requires special care or attention there will probably a woman helping them, because in the majority of cases these roles fall on women who normally end up being responsible to provide that support, for example, bringing children to school, or taking the adults to their medical appointments.

As long as the obstacles which affect the transit of the female population keep existing, there will be limitations for their inclusion and participation in the formal productive sector as well, since obstacles are incompatible with their mobility paths that tend to be more complex than man's. This has a direct impact in economic terms, as it means less purchasing power for them meaning unequal access to transport, whether public or private. (EMAKUNDE, 2013). Those reasons should be important enough to justify the implementation of spatial design from the gender perspective.

How is it possible that by including gender as a criteria for spacial design, one can contribute towards a more sustainable development? First of all, it is important to remember that the concept of sustainability entails a balance between social development, economic development and environmental protection (the three pillars of sustainability) (UN, 2005). In the case of social and economic development, as long as a significant part of world's population (women) suffers from inequality and disadvantages in terms of education, poverty, human rights, fair payment, amongst others, it will be impossible to achieve a truly sustainable development. Fortunately, this has been acknowledged internationally. Achieving gender equality and the empowerment of women and girls is one of the 17 Sustainable Development Goals established in United Nation's 2030 Agenda for Sustainable Development (UNDP, 2015).

In Costa Rica, women are the heads of 40% of the country's poorest homes, have higher unemployment rates than men and earn 28% less than men (UNDP, 2014). This makes them a vulnerable population, which has less possibilities of affording private transportation. This, added to ciphers such as 7000 reports per year of sexual harassment in streets and public spaces and 80% of women having been victims of verbal abuse in public spaces (INAMU, 2015), could suggest that if women do have the possibility of changing from public to private transport, they would be more likely to do so than men, increasing their monthly transport costs, the country's vehicle fleet and increasing GHG emissions. In environmental, social and economic terms, we find these are all valid reasons to

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