

A Method for Evaluating Gender Equity of Cycling from Rawls Justice Perspective

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Abstract : Promoting cycling, as an affordable environmentally friendly mode of transport to replace private car use has been central to sustainable transport policies. Cycling is faster than walking and combined with public transport has the potential to extend the opportunities that people can access. In other words, cycling, besides direct positive health impacts, can improve people mobility and ultimately their quality of life. Transport literature well supports the close relationship between mobility, quality of life, and, well being. At the same time inequity in the distribution of access and mobility has been associated with the key aspects of injustice and social exclusion. The pattern of social exclusion and inequality in access are also often related to population characteristics such as age, gender, income, health, and ethnic background. Therefore, while investing in transport infrastructure it is important to consider the equity of provided access for different population groups. This paper proposes a method to evaluate the equity of cycling in a city from Rawls egalitarian perspective. Since this perspective is concerned with the difference between individuals and social groups, this method combines accessibility measures and Theil index of inequality that allows capturing the inequalities 'within' and 'between' groups. The paper specifically focuses on two population characteristics as gender and ethnic background. Following Rawls equity principles, this paper measures accessibility by bikes to a selection of urban activities that can be linked to the concept of the social primary goods. Moreover, as growing number of cities around the world have launched bike-sharing systems (BSS) this paper incorporates both private and public bikes networks in the estimation of accessibility levels. Additionally, the typology of bike lanes (separated from or shared with roads), the presence of a bike sharing system in the network, as well as bike facilities (e.g. parking racks) have been included in the developed accessibility measures. Application of this proposed method to a real case study, the city of Malmö, Sweden, shows its effectiveness and efficiency. Although the accessibility levels were estimated only based on gender and ethnic background characteristics of the population, the author suggests that the analysis can be applied to other contexts and further developed using other properties, such as age, income, or health.

Keywords : accessibility, cycling, equity, gender

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