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A Methodological Framework to Rank Energy Efficiency of Cities

Hewawasam H.U.C.P.[1*], Bandara J.M.S.J.[1] and Wirasinghe S.C.[2]

[1]Department of Civil Engineering, University of Moratuwa, Sri Lanka
[2]Department of Civil Engineering, Schulich School of Engineering, University of Calgary, Canada
*chamalih@yahoo.com

Abstract

Out of 17 sustainable development goals established by United Nations, the goal of sustainable cities and communities achievement can be addressed by having more energy saving cities. In this context this study will be useful in identifying sustainable cities in the evaluation of goal achievement as one indicator to measure sustainable cities. The objective of this study is to propose a methodology that would enable to rank energy efficient cities and to establish their rank priorities. Energy efficiency may be the cheapest, most abundant, and most underutilized resource for local economic and community development.In today's context motorized transportation is highly being used, which resulted in more energy waste and pollution. Walking receives a considerable interest as non polluting transportation mode which results in energy saving as opposed to motorized traffic. We can have more energy saving cities by reducing the motor traffic and promoting more pedestrian friendly cities. In this context, measure of "walkability" has been used. This research attempts to identify a ranking system of cities to base on their energy efficiency in terms of walkability with the identified indicators.These indicators included daily traffic flow composition, Public transport network, pedestrian movements and an evaluation of existing pedestrian facilities within the city limits. On the basis of the surveys performed, the significance of indicators was determined.Since this being an initial attempt in ranking energy efficient cities in terms of walkability, researches can further develop this methodological framework and fine tune it towards an all inclusive ranking system of energy efficient cities.

*Keywords***:** Sutainable cities, Motorized transportation, Walkability, Pedestrian, Indicators

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