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A method to assess transport consumptions in suburban areas

The process of urban sprawl is familiar in many European urban regions, and particularly in the Walloon region of Belgium. It represents a significant contribution to global energy consumptions, as far as building energy but also transport needs are concerned because, in these kinds of residential neighbourhoods, car ownership is high and public transport generally available at low frequencies. However, transport consumptions are rarely taken into account, when the sustainability of suburban structures is studied.

The paper first presents the specificities of the Walloon context, as far as urban sprawl is concerned. The method developed to assess the transport system in Walloon suburban areas is presented. Four goals are taken into account: travels to work, to school, for shopping and for leisure purposes. Statistical data's available at the neighbourhood scale, "type" profiles and characteristics of cars and public vehicles are used to anticipate transport needs and assess consumptions.

An application of this method is presented concerning the comparison of the influence of parameters which are often underestimated, like location of the neighbourhood, distance to city centre, access to local public transport, accessibility to shops and schools, etc. to allow a range of different development situations to be explored. The results of this exercise are finally presented. Its limits and its adaptation in other contexts are discussed.