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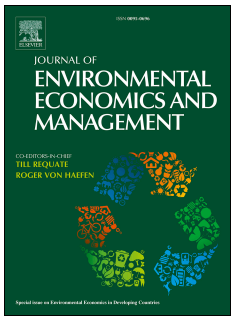

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Laurent Denant-Boemont, Carl Gaigné, Romain Gaté

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Urban spatial structure, transport-related emissions and welfare *

Laurent Denant-Boemont†, Carl Gaigné‡, Romain Gaté¶

October 26, 2016

Abstract

In this paper, we study the effects of urban design on pollution and welfare. We build a theoretical model of residential choices with pollution externalities arising from commuting, where the size of the central business district (CBD) and the demand for housing are endogenous. We show that a polycentric city is desirable from welfare and ecological perspective, provided that travel speed and/or the number of roads directly connected with the CBD are sufficiently high. The spatial extension of cities remains the critical variable to curb transport-related urban pollution.

Keywords: Urban form; Housing; Travel speed; Carbon emissions; Welfare.
JEL Classification: Q53; R14; R21

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†Université de Rennes1, CNRS, UMR6211 CREM, 35000 Rennes (France).
‡INRA, UMR1302 SMART, 35000 Rennes (France) and Université Laval, CREATE, Québec (Canada).
§Université de Rennes1, CNRS, UMR6211 CREM, and INRA, UMR1302 SMART, 35000 Rennes (France).

¶*Corresponding author:* Romain GATE, 7, place Hoche, 35065 Rennes Cedex (France).
Email: romain.gate@univ-rennes1.fr