

Cars and Sprawl: Chicken or Egg?

May 27 2010

(PhysOrg.com) -- It may have taken a major oil spill in the Gulf of Mexico to direct the general public's attention to automobile use and how it affects everything from the environment to obesity.

But some people study it--and how to change that habit and its impacts on <u>energy consumption</u>, air quality, climate, physical activity and more--every day.

A study featured in the summer issue of the *Journal of the American Planning Association*, and released in advance this week, aims to make decisions easier for those charged with designing and building cities that use less carbon in the future.

"There has been more research on the effect of community design on the amount people drive, walk, and use transit than any other subject in urban planning," said Reid Ewing, professor of city and metropolitan planning at the University of Utah, and co-author of the analysis. "We have attempted to make sense out of the varied findings, and arm planners and policy makers with numbers they can use to justify compact development, mixed use, interconnected streets, accessible transit, and other smart growth measures."

Research consistently shows that location within the metropolitan area is the most important determinant of how much driving people do. Central, highly accessible locations minimize vehicle miles traveled.

Street connectivity and block size are important as well. Straight



thoroughfares intersected by shorter, more welcoming blocks create a more navigable environment that encourages residents to walk more, resulting in widely-recognized health benefits.

Land-use diversity, for example a balance of jobs and housing within a neighborhood, is more important than density. While the focus of much of the earlier research, density of development is a secondary factor. Dense developments--of population or jobs--in the suburbs or exurbs are likely to have much larger carbon footprints than almost any development in the urban core of the metropolitan area.

How the Study was Conducted

The researchers performed a meta-analysis of some 200 built environment and travel studies conducted since 1996, in order to measure the magnitude of relationships that influence a person's travel choices. The statistical technique is a systematic way of combining data from many studies on a given topic to allow common threads to emerge, and also to calculate meaningful averages. The conclusions can then be applied with confidence by planners, policy makers and other professionals working to enhance physical, social and mental health of America's communities.

"In one study after another, the design of communities has been shown to affect the amount that people drive, walk, and use transit. Hopefully this study helps quiet the debate over whether community design matters," said Ewing. "These estimates can be used in transportation planning, health impact assessment, climate action planning, and many other planning activities."

The full article, complete with data tables, is available at <u>tinyurl.com/Travel-and-Built-Environment</u>.



Provided by University of Utah

Citation: Cars and Sprawl: Chicken or Egg? (2010, May 27) retrieved 26 April 2024 from <u>https://phys.org/news/2010-05-cars-sprawl-chicken-egg.html</u>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.