Study finds congestion pricing works best when partnered with land-use planning

September 23 2011

What does it take to convince motorists to drive less -- and thereby reduce traffic congestion, air pollution, and greenhouse gas emissions?

For some local, state, and federal policy makers, the answer typically lies in land-use planning that makes it easier for people to walk, ride bicycles , or use mass transit. But for other policy makers, congestion pricing – charging drivers more to drive in heavy-traffic areas during peak hours -- is the better way to go.

Although the two strategies for two decades have been seen by proponents as substitutive rather than complementary – and even at odds – a new study led by Zhan Guo, assistant professor of urban planning and transportation at New York University's Robert F. Wagner Graduate School of Public Service, has found that these fundamental approaches are actually more effective at reducing motorists' vehicle miles traveled (VMT) when developed in concert and in connection with each other.

The conclusion arises from an examination households' VMT data in a pilot mileage-fee program run in Portland, Oregon. The analysis sought to determine whether land-use planning reinforced the benefit of congestion pricing, and whether congestion pricing could strengthen the role of land-use planning in encouraging travelers to reduce the amount of driving they routinely do.

The data for the study were collected over 10 months from 130 households in Portland. The households studied were divided into two

groups: those that faced congesting pricing, and those that did not, in order to determine the impact of congestion pricing in different types of communities.

The study found that VMT reduction is greater in traditional (dense and mixed-use) neighborhoods than it is in suburban (single use, low-density) ones, since traditional neighborhoods tend to offer more transportation options. Therefore, the researchers concluded, land-use planning is necessary to ensure that congestion pricing has an optimal effect on overall miles traveled by car, and the two strategies for reducing traffic appear to be mutually supportive, according to the study, "Are Land Use Planning and Congestion Pricing Mutually Supportive," published in the *Journal of the American Planning Association*.

Provided by New York University