Social Influence and Transportation Mode Choice: Opportunities for Transportation Demand Management

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ISSUE
Traffic congestion is a concern in most urban areas and is linked to air quality impacts and slow commute times. Construction of new roadways or widening of existing roadways as a means to reduce congestion is increasingly replaced with Transportation Demand Management (TDM). TDM emphasizes the promotion of alternative modes of transportation through the use of incentive programs such as carpool lanes or increased parking costs, in order to reduce congestion and related emissions. One means of promoting alternative modes which has the potential to affect transportation outcomes is the use of social incentives, or social influence.

POLICY IMPLICATIONS
The research findings discussed here indicate a positive relationship between the transportation mode decisions made by an individual’s close social contacts and the individual’s own such decisions. This relationship holds, even when other factors known to be important in mode choice are considered, such as socio-demographics and neighborhood mode use. These findings indicate that social network strategies may be useful tools to motivate the use of alternative means of transportation. Some examples of social network strategies include:

• Social Reporting – providing a means for individuals to report their mode choices to their social networks; knowing what friends, colleagues, family do can influence individual mode choices.

• Referrals – individuals receive (or are entered into drawings for) prizes for referring others to transportation programs or sharing information within their social networks.

• Buddy Programs – Carpooling is already an example of a social mode, but transit could also capitalize on this, or employer sponsored commute programs where individuals travelling together by any mode receive a discount or a reward.

These and other programs may capitalize on social networks as an inexpensive and flexible means for the promotion of alternative modes of transportation in order to decrease dependence on single occupancy vehicles and improve traffic and air quality conditions.
RESEARCH FINDINGS

Our research found that there is a social effect on individual transportation decisions. We explored social influence on transportation mode choice within small groups of social contacts. Figure 1 illustrates one small group, or ego-network, consisting of a focal individual and five others with whom the focal individual is socially or professionally connected. A random sample of UC Davis students was surveyed and each participant described up to five members of their social network. Within this random sample of small social groups, we found that the focal individuals are most likely to use the mode of transportation that is used by the highest percentage of their own group. Other factors, such as commute time, individual attitudes, commute characteristics and socio-economic traits are also important in transportation mode choice. Using regression models, we found that even when taking into account and controlling for many factors, the mode use within these social groups is associated with the mode choices that an individual within the group makes. Although some members of each focal individual’s group may face the same commute as the focal individual, we also controlled for neighborhood-level mode choices by calculating the percentage of each ego’s neighbors (those living within ½ mile of their home) using each mode of transportation. Even when accounting for neighborhood level mode use, social influence remains a significant factor in individual mode choice.

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