

NCDOT Research Project 2003-13

TITLE: Traditional Neighborhood Development Trip Generation Study

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DOCUMENTS/LINKS AVAILABLE: Other Research by Dr. Stone
Other Research by Dr. Khattak
Related NCDOT Research

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ABSTRACT:

Traditional Neighborhood Development (TNDs) are characterized by human-scale walkable and transit friendly communities with moderate to high densities and a mixed-use core. TNDs are becoming increasingly popular in the United States and they are expected to encourage the use of alternative modes and increase internal trip capture ultimately reducing congestion, Vehicle Miles Traveled and improving air quality. There is empirical evidence that people are willing to pay a premium to live in TNDs (Tu and Eppli 2001). This study will assess if trip generation rates and alternative mode use are indeed different in TNDs compared to those predicted by conventional ITE methods. To do this, the study will:

1. Review studies on the impacts of TNDs conducted in other geographical areas and synthesize their findings to explore implications for North Carolina.
2. Collect and use North Carolina data—by conducting a resident survey of Southern Village TND in Orange County—to explore the impacts of TNDs in terms of trip generation, trip chaining, mode choice, and activity participation.
3. Conduct surveys of on-site office workers or off-site visitors to the Southern Village to understand the travel characteristics of office and retail users.
4. Collect relevant non-survey data from traffic counts to compare it with survey data.

We will conduct behavioral surveys/travel diaries to explore how travelers' behavior is influenced by TNDs. The survey results will be compared with the ITE's Trip Generation Manual and to trip generation rates from a nearby conventional neighborhood. Analysis of the data will be able to identify TND effects. A related purpose of the surveys is to establish a benchmark/baseline of traveler behavior in TNDs and to provide data for future comparisons and modeling efforts (Southern Village can serve as a future Laboratory or Testbed for transportation experiments).

The benefits of the study will be to understand (1) the extent to which TNDs reduce vehicular trips produced by residents and internally capture some of them, and (2) what other trips are attracted to TNDs. This will ultimately generate useful information in future transportation planning activities with North Carolina. The survey participants will be selected randomly, and we will obtain a statistically significant sample size. The data will be analyzed using state-of-the-art methods (category analysis and trip generation modeling) and it will be available to various branches at NC DOT. Ultimately this study will allow us to make more informed judgments about TND development and traffic impact analysis.