



Caltrans Division of Research,
Innovation and System Information

Research

Notes

Transportation
Safety and
Mobility

SEPTEMBER 2013

Project Title:
Trip-Generation Rates for
Smart Growth Land Use Projects

Task Number: 2464

Start Date: January 1, 2014

Completion Date: December 31, 2016

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Recalibrating and Validating New Smart Growth Trip Generation Adjustment

Data collection and model development to acceptably forecast Smart Growth trip reduction performance.

WHAT IS THE NEED?

Local development projects with "smart growth" characteristics have the potential to decrease the mode share of travel by car. Such projects are more viable when the expected decrease in the share of car trips is passed on to decrease new required infrastructure. Of particular interest is the interface of the state facility, which is usually a freeway, with local streets, which are municipally owned and operated.

Smart growth, in the Institute of Transportation Engineers Trip (ITE) Trip Generation handbook, is a mixed-use development for which trips are internalized or satisfied with both origin and destination being inside the development. This project significantly extends the presently limited methodology.

WHAT ARE WE DOING?

The prior research task produced detailed data for 30 complex smart growth sites and provided experience developing a method acceptable to the community of practice to include site factors that modify car travel mode share. This task will obtain data for 30 additional locations and refine the method so it will acceptably forecast smart growth trip generation for California locations.

The two major tasks are data collection and model calibration. Data collection consists of gross volume counts in all the different modes, corroborated with personal interviews. Permission to access the facility must be obtained and the interviews are accomplished creatively. The interviewer may walk backwards, identifies him or herself as representing Caltrans, and complete the conversation with the traveler still in motion.



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Model design and calibration require scientific judgment to relate site variables with performance. The correlative relationship needs to be statistically significant to earn acceptance in the practitioner community.

WHAT IS OUR GOAL?

Strong policy motivation exists to promote smart growth, and this task is intended to provide robust technical underpinnings to estimates of the need for safe and adequate mobility infrastructure. Projects of this type earn arbitrary reductions to infrastructure otherwise. Crafting smart growth into the GHG solution in land use and transportation, to simplify the application of CEQA, is the partial present legislative intent.

WHAT IS THE BENEFIT?

Smart growth as a policy is the solution at the transportation – land use interface to escalating greenhouse emissions, but its viability requires accurate estimating of car mode travel reductions, and uniform mitigation through infrastructure responsibility.

Car travel associated with a development is most efficiently mitigated by a fee program supported by a nexus study. Smart growth that results in less car travel requires less infrastructure and trips caused by the development will result in lower GHG emissions.

WHAT IS THE PROGRESS TO DATE?

Work on this task is expected to begin January 1, 2015.