ITS UCDAVIS
INSTITUTE OF TRANSPORTATION STUDIES

Research Report – UCD-ITS-RR-11-12C

Evaluation of the Operation and Accuracy of Five Available Smart Growth Trip Generation Methodologies - APPENDIX C: Practitioners Panel Survey on Operational Criteria

September 2011

Richard Lee
Joshua Miller
Rachel Maiss
Mary Campbell
Kevan Shafizadeh
Deb Niemeier
Susan Handy
Terry Parker

Institute of Transportation Studies ◦ University of California, Davis
One Shields Avenue ◦ Davis, California 95616
PHONE (530) 752-6548 ◦ FAX (530) 752-6572
www.its.ucdavis.edu

Evaluation of the Operation and Accuracy of Five Available Smart Growth Trip Generation Methodologies

Richard Lee
Josh Miller
Rachel Maiss
Mary Campbell
Kevan Shafizadeh
Deb Niemeier
and Susan Handy
Institute of Transportation Studies
University of California, Davis

with Terry Parker
California Department of Transportation

APPENDIX C:
Practitioners Panel Survey on Operational Criteria

September 12, 2011

Appendix C: Practitioners Panel Survey on Operational Criteria

As part of the UC Davis-Caltrans project, "Trip-Generation Rates for Smart-Growth Land Use Projects in California," the project team created an on-line survey to allow Practitioner Panel members to rank operational criteria that had been identified through shared discussions. Eleven panel members opened the on-line survey. Eight completed the survey. Respondents were allowed to skip questions, so there is not a consistent number of respondents for each question. Typically, there were eight responses to each question. Respondents were asked to rate criteria from 1 to 6 with 1 being the "least important" and 6 being the "most important" ranking for each criterion. The average response from 1 to 6 is shown in the shaded column. **Responses are listed in the order of highest to lowest averages for each category. Top-rated criteria are listed on the last page** (page 8).

1. **The following operational criteria relate to a methodology's <u>Ease of Use.</u> Please review the list below and rate the importance of the criteria. 1=least important and 6=most important. You can rate more than one criterion with the same importance/rating.**

Criteria	Least Important……..…....Important					Most Important	N/A *	Rating Average	Response Count
	1	2	3	4	5	6			
User-friendliness		1	1		3	3		4.8	8
Difficulty of obtaining required data			2	2		4		4.8	8
Transparency	1	1	1		3	2		4.1	8
Data needs			3	2	2	1		4.1	8
Time to analyze a Project		2	2	3	1			3.4	8
Use voluntary	1	3	3				1	2.3	8

**N/A column is only shown in tables where was a response listed in that column.*

Comments from respondents:

1. Logic and ease of explaining to analysis reviewers so they will accept method and its results.
2. I think data needs, difficulty of obtaining data, and effort to use available data are all part of user-friendliness. If it takes too much time to obtain, process, and evaluate data, the method is no long user friendly.
3. Hard questions to answer because the answers may be different for different locations/situations.
4. If a methodology doesn't give the right answer then its other virtues are for “naught.”

2. **Please rate the following <u>Method Sensitivities Criteria</u> in order of importance. 1=least important and 6=most important. You can rate more than one criterion with the same importance/rating.**

Criteria	Least Important 1	2	3	4	5	Most Important 6	Rating Average	Response Count
LU context variables		1			3	4	5.1	8
Project-level Variables		1		1	2	4	5.0	8
Transport Variables		1		2	1	4	4.9	8
Transit headways/Change in service		1	1	3	1	2	4.3	8
Urban design variables		2		3	2	1	4.0	8
Parking supply/pricing		1	2	3	1	1	3.9	8
Pedestrian/Bicycle Connectivity		1	2	2	2		3.7	7
Use of 7Ds		3	1	3		1	3.4	8
Starts with person trips, then allocates to modes	4		1	1		1	2.4	7
Gas Prices	3	3	1	1			2.0	8

3. **Please rate the following <u>Input Data Mechanics</u> criteria in order of importance. 1=least important and 6=most important. You can rate more than one criterion with the same importance/rating.**

Criteria	Least Important……Most Important 1	2	3	4	5	6	N/A	Rating Average	Response Count
Sensitivity of output to inputs						7		6.0	7
Uses local information		1			7			4.6	8
Difficulty of obtaining required data			2	2		3		4.6	7
Amount of data needed about the project's context &/or area nearby.			2	1	2	2	1	4.6	8
Can it work without regional or local travel models?	1			2	3	2		4.5	8
2-tiered data inputs for data-poor/-rich areas		1	2	1		4		4.5	8
Borrowed data OK		1	1	2	3	1		4.3	8
Amount of data needed about the proposed project.			2	1	2	1	1	4.3	7
Relates Smart Growth indicators to inputs	1	1	1		1	3		4.1	7
Effort to use available data			1	2	4	1		3.6	8

Comment from respondent:
Did not understand [items about amount of data]. (*note – these were clarified for subsequent survey respondents*)

4. **Please rate the following <u>Output</u> <u>Criteria</u> in order of importance. 1=least important and 6=most important. You can rate more than one criterion with the same importance/rating.**

Criteria	Least Important……Most Important						N/A	Rating Average	Response Count
	1	2	3	4	5	6			
Results replicable by other analysts					2	6		5.8	8
AM / PM / daily / other time frames reported				1	3	4		5.4	8
Auto vs. "other" trip generation rates				1	3	3		5.3	7
"Internal capture" shown?			1	1	3	3		5.0	8
Project description by land use(s) and size?			1	3		4		4.9	8
Inputs?			1	3	1	2	1	4.6	8
Analyst can adjust model	1		1	1	2	3		4.5	8
Include and distinguish between future traffic volumes and a project's trip generation rate			4	1		2	1	4.0	8
Effect of transit service on travel	1		2	2	2	1		3.9	8
Graphical representation of raw vs. final trip gen. data	1	1	2	1		3		3.8	8
Link reduced trips to a reduction in VMT		3	1	2	2			3.4	8
Effect of bike and pedestrian facilities on travel		2	4		2			3.3	8

5. **Please rate the following <u>Additional Criteria</u> in order of importance. 1=least important and 6=most important. You can rate more than one criterion with the same importance/rating.**

Criteria	Least Important……..Most Important						N/A	Rating Average	Response Count
	1	2	3	4	5	6			
Results should not fluctuate excessively.					3	4	1	5.6	8
Can the method measure the performance of different kinds of land use projects?					3	4		5.6	7
Can the method be used to define a range for reductions in ITE rates?		1	1	2	1	2		4.3	7
Does the method identify a context for a development that qualifies it as smart growth?	1	3		1		3		3.6	8
Can the method define different categories of smart growth based on size, urban area, etc?	1	2	1	1	1	2		3.6	8
Complex equations should be converted to simpler graphs and/or tables.	1	2		2	2	1		3.6	8
Can the method group certain types of smart growth within parameters to comprehend complex development mixes?	1		4	1	2			3.4	8

Comment from respondent:
[item on fluctuation in results] - the results should not differ from one run to the next if inputs are the same.

TOP-RATED CRITERIA

Criteria	Least Important……...Most Important						N/A	Rating Average	Response Count
	1	2	3	4	5	6			
Sensitivity of output to inputs						7		6.0	7
Results replicable by other analysts					2	6		5.8	8
Results should not fluctuate excessively.					3	4	1	5.6	8
Can the method measure the performance of different kinds of land use projects?					3	4		5.6	7
AM / PM / daily / Other time frames reported				1	3	4		5.4	8
Auto vs. “other” trip generation rates				1	3	3		5.3	7
LU context variables		1			3	4		5.1	8
“Internal capture” shown?			1	1	3	3		5.0	8
Project-level Variables		1		1	2	4		5.0	8
Transport Variables		1		2	1	4		4.9	8
Project description by land use(s) and size?			1	3		4		4.9	8