

From: TRBWeb4@nas.edu

To: Dale Azaria <dale.azaria@uvm.edu>

Date: Fri, Oct 1, 2010 at 5:03 PM

Subject: TRB Paper #11-2072 Review Results

Thank you for submitting your paper for presentation at the Transportation Research Board 2011 Annual Meeting and/or for publication in the 2011 Transportation Research Record series (Journal of the Transportation Research Board). Yours was one of more than 3800 papers submitted. Approximately half of these papers will be presented at the Annual Meeting, and about 25 percent will be published in the Journal of the Transportation Research Board.

Your paper, number 11-2072, "Integrating UrbanSim with a traffic router and micro-simulator for transportation and land use change analysis", submitted for presentation and publication, was reviewed by TRB's Integrated Transportation and Land Use Modeling Joint Subcommittee (ADB40(2)).

Based on the peer review results, the committee is making the following recommendations to TRB.

Presentation:

The committee does not recommend your paper for Presentation at the TRB Annual Meeting.

Publication:

The committee does not recommend your paper for Publication in the Journal of the Transportation Research Board.

The peer review results are summarized below. Please contact me if you have any questions.

Sincerely,

Jessica Guo, University of Wisconsin, Madison

Chair/Paper Review Coordinator, ADB40(2)

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REVIEW RESULTS

Averages based on a scale from 1-Poor to 5-Excellent.

1. Objectives appropriate and clearly stated: Average=4.0
2. Methodology technically sound: Average=3.5
3. Data valid: Average=3.5
4. Conclusions valid and properly supported: Average=3.3
5. Existing work adequately described and properly referenced: Average=2.8
6. Study effort adequately described: Average=3.5
7. Overall contribution to the state-of-the-art or practice: Average=3.0
8. Originality and timeliness: Average=3.0
9. Ready for implementation by practitioners (practice-ready): Average=3.0
10. Usefulness to researchers: Average=2.3
11. Long-term value as a research reference or description of practice: Average=2.8
12. Paper organization: Average=4.0
13. Abstract clearly conveys meaning of paper: Average=4.0
14. Well written and easily understood: Average=3.8

Comments for corresponding author:

REVIEWER 1:

I can't figure out what the reader is supposed to learn from this paper. Wouldn't a research finding such as "there appears to be little justification for expending the large amount of time and money...in a context like Chittenden County" be something that would have been known before the research was ever started?

REVIEWER 2:

First and foremost the paper belongs to a vastly growing stream of research on integrating the different components of the travel demand process. There are three main components in the demand modeling process: (1) Land-use and demographics, (2) travel patterns or trips and (3) traffic assignment. The current study only examines two dimensions. However, the limitation is never discussed. The advantages of using a second by second traffic microsimulator might not be relevant when aggregate demand inputs are provided. I believe this could be one of the reasons for the not so great difference in results. The paper provides some details on this in page 4 lines 18-26. But, it does not identify that this as a huge (in my opinion) assumption that needs attention.

Another comment I have is that the paper is focussed on land-use changes and does not really examine the changes in travel. Hence an assumption that neglects the travel component might be relatively ok!

But, the paper should discuss in detail the attempts in literature towards integrating different component of the travel demand process. There has been a vast amount of literature integrating activity-based models (with/without land-use components) with dynamic traffic assignment (see for example: Lin, D-Y., N. Eluru, S.T. Waller, and C.R. Bhat (2008), "Integration of Activity-Based Modeling and Dynamic Traffic Assignment," *Transportation Research Record*, Vol. 2076, pp. 52-61).

Also, there are a number of projects currently underway that are tackling similar problems (see for example Strategic Highway Research Program 2 (SHRP 2) that need to be mentioned.

Overall, the paper does provide value by contributing towards an integrated system for medium sized neighborhoods.

REVIEWER 3:

This paper describes the method to integrate UrbanSim with two types of travel models and shows some interesting results from the two integrations. The discussions and conclusions are heuristic to practitioners. The detailed comments are listed below.

1. Lines 27-28, p. 3: "UrbanSim can endogenize factors that other models take as exogenous, such as location of employment and the price of land and buildings" may cause dispute. "other models" may be interpreted as that UrbanSim is the only model which can endogenize location of employment and the price of land and buildings. To my best knowledge, different models adopt different approaches to deal with location choice and price. At least, PECAS can fully endogenize the location choices of households and employment and price of land.
2. Lines 33-35, p.3: "The assumption is that accessibility change over time so transportation must be made endogenous". Transportation could be thought endogenous only if transportation model is integrated with UrbanSim as a system at a higher level.
3. Line 35, p.3: ".accessibility affects land use depends on ." is not consistent with "Because accessibility largely drives land use (Lines 36-37, p.2)".
4. Line 7, p.6: the references in the parenthesis should be (8,14,15) instead of (6,14,15).
5. The authors use different expressions for accessibility and perplex the readers. In Lines 18, p. 6, 9, p.7, and 11, p. 9, it is travel time while it is logsum in Lines 15, p.8, 12, p.9, and 32, p. 9. To my best knowledge, the default accessibility in UrbanSim is a trip-weighted measure instead of logsum per se. The authors should explicitly tell the readers which accessibility measure is used in the model because it is so important to UrbanSim.
6. Line 13, p.10: $p = 0.092$ instead of $p = 0.92$. By the way, p should be in italics.
7. Line 5, p.11: it should be six towns instead of "eight towns".
8. Figures 4, 5, and 6 on pp. 12-13 are mislabeled. They should be Figures 5, 6, and 7.
9. Figure 5 (b) misses a polygon at the right lower corner.
10. Reformat the paper (title, subtitles, tables, figures, and references) as TRB requires.

REVIEWER 4:

The direct comparison of commercial products and the resulting critique is problematical. While it would be inappropriate to hide the names of the products, it would certainly be better if the paper could be made more generic. At the very least the names should be suppressed from the title and abstract. For example, Paramics (just to pull one name out of the air) could very well have replaced TRANSIMS in the modeling sequence.

The description of the linkage does not suggest that any attempt was made to seek consistency between network loadings and the land use allocations within the same 5-year time slice. The authors need to explain why this was not done and give some idea of the implications of this simplification.

The details of how the models were linked are not interesting. While linking the models may have be the most time consuming part of the research, there is no reason to expose the reader to all the gory details.

When using a detailed traffic model for long term forecasts there could be rather substantial required changes in traffic control and lane geometry. The authors do not mention how these supply-related effects were accommodated in the forecast. The possible absence of supply-relate effects would definitely place TRANSIMS at a disadvantage relative to a simpler model. Locking down all network parameters is unrealistic. Even null alternatives typically allow for TSM.