



# 2007 SIMCAP MEMBERSHIP SURVEY



NCSITE Annual Meeting  
November 8, 2007

The 'Simulation and Capacity Analysis User Group' (SimCap) brings together users of different traffic operations software programs to exchange information, answer questions, and share insights related to these analysis tools. The objective of this survey was to get an overview of the types of software tools engineers and planners in NC use for different applications and to determine common needs and questions practitioners have with regard to these tools. In the results presented below, **analytical** software tools are based on *deterministic equations*, while **simulation** tools are those that explicitly model the *movements of individual vehicles*.

### General Statistics

- 23 Questions asked in online survey
- 54 Responses collected
  - 69% Consultants
  - 19% Municipal Government
  - 7% State Government
  - 4% Academia
  - 2% MPO/COG
- Survey conducted in July/August 2007

### Typical Job Tasks of Survey Respondents

- 82% Traffic Impact Analyses
- 59% Signal Design
- 56% Corridor Studies
- 48% Access Management
- 41% Roundabouts
- 30% Freeways
- 26% Signal Systems
- 26% Ped/Bike Facilities
- 26% Long-Rang Planning

### Most Commonly Used Software Tools

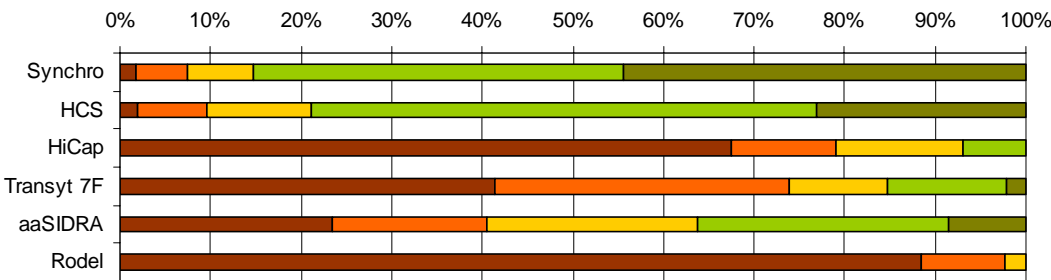
#### Analytical

- 88.7% SYNCHRO
- 7.6% HCS
- 1.9% SIDRA

#### Simulation

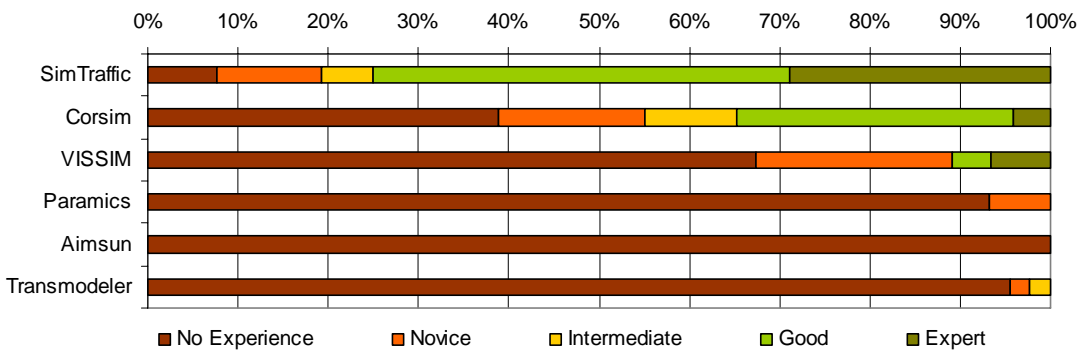
- 73.6% SIMTRAFFIC
- 15.1% CORSIM
- 9.4% VISSIM

Figure 1a: Rate your Proficiency with the following ANALYTICAL tools.



When asked about their proficiency with different analytical tools, survey respondents indicated good familiarity with the SYNCHRO and HCS software, as well as the aaSIDRA tool. Respondents were less familiar with RODEL, HICAP, and Transyt 7F.

Figure 1b: Rate your Proficiency with the following SIMULATION tools.

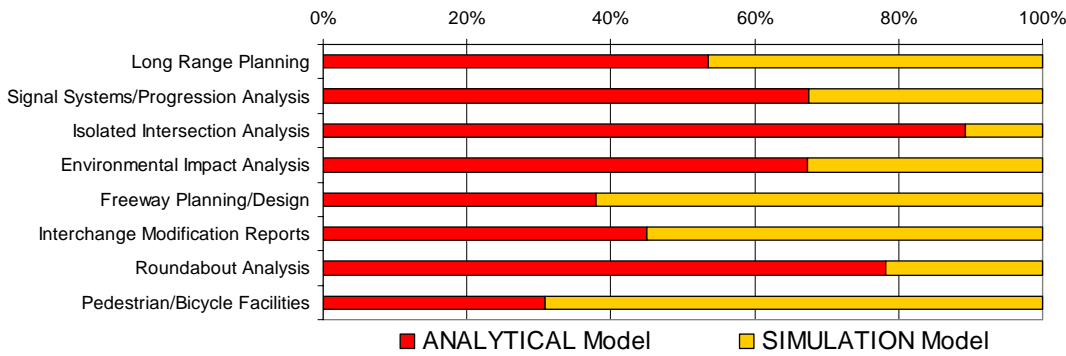


For simulation tools, respondents were most familiar with SimTraffic and Corsim, with some proficiency in VISSIM. Paramics, Aimsun and Transmodeler are less understood.

In general, the responses indicated better proficiency with analytical software compared to simulation tools.

The survey also allowed each respondent to identify perceived advantages and disadvantages with the different software packages. While respondents acknowledged that there are clear limitations of analytical tools, they are generally preferred over more data-intensive and sometimes cumbersome simulation tools. Analytical tools are generally easier to use and are already available in most companies and agencies. However, the ability of simulation tools to model more complex problem statements is considered an asset for unconventional designs and multi-modal situations. Simulation tools are also valued as a good tool for public involvement because of their powerful visualization capabilities.

**Figure 2: Which tool would you recommend for each subject area?**



When asked which model they would use for different transportation subject areas, respondents generally preferred **analytical** tools for intersection, signal, and environmental analyses.

**Simulation** tools are preferred for analyzing freeway and pedestrian & bicycle facilities.

The survey indicated that SYNCHRO is clearly the preferred **analytical** tool for the analysis of signal systems and shares the top rank with HCS software for other applications.

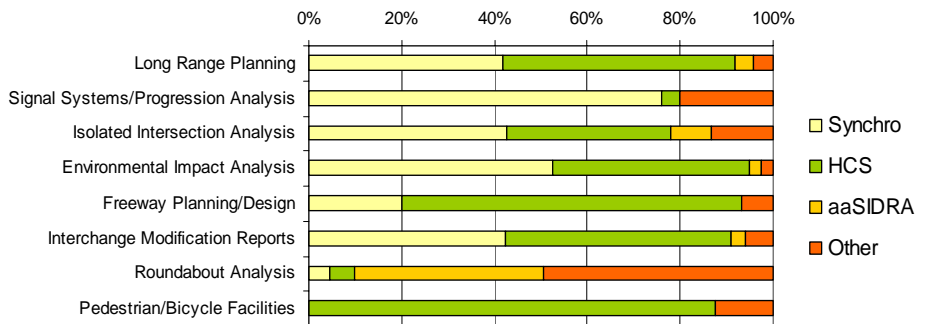
The SIDRA and RODEL (not shown) packages are recommended for roundabout analysis, if using an **analytical** tool.

When using **simulation**, SimTraffic is preferred for intersection and signal systems analyses.

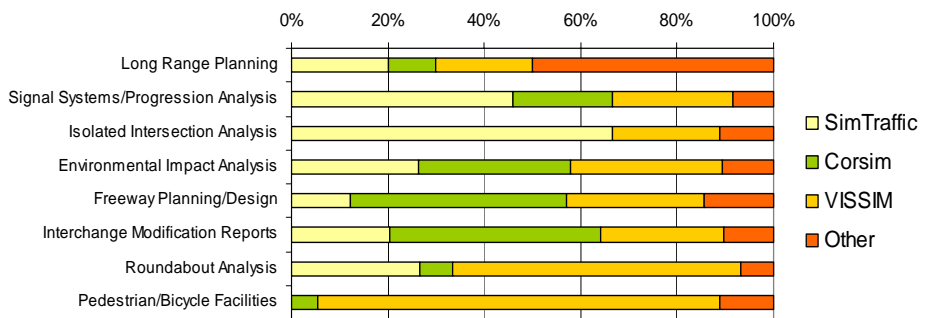
The more sophisticated **simulation** tools VISSIM and CORSIM are recommended for analyzing freeway, roundabout, and ped/bike facilities.

“Other” **simulation** tools, including Transmodeller (not shown), are preferred for long range planning projects.

**Figure 3a: Which ANALYTICAL tool would you recommend?**



**Figure 3b: What SIMULATION tool would you recommend?**



**Figure 4: Interest in further training through SimCap**



The responses indicated that there is a lot of interested in further training & support through SimCap. The six tools with the most interest are shown to the left. The interest in the remaining models was generally in the ‘low’ range.

For training, respondents preferred ‘full-day’ or ‘half-day’ workshops over web-based discussions and ‘lunch&learn’ meetings. Many were also interested in presentations at future NCSITE meetings.

**On the Web:**

<http://www.ncsite.org/SimCap>

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**Upcoming SimCap Workshop!**

**Advanced Synchro/SimTraffic**

Speaker: Mr. John Albeck

Developer Team, Trafficware Ltd.

December 11, 2007