

Development News and Notes

TSIS-CORSIM[™]

TSIS-CORSIM version 6.1 was released in November 2008. This version follows the original release of TSIS-CORSIM version 6.0 in January 2007, and the build 507 update from January 2008.

Version 6.1 offers a variety of new features including 9-lane intersection approaches, left-hand drive, emergency vehicles, improved vehicle movement logic, and an alternate user-interface called TSIS Next. Efforts are now underway to:

- streamline the overall user-interface architecture;
- provide new user-interface features;
- provide advanced new modeling capabilities in the CORSIM simulator;
- provide tighter integration with TRANSYT-7F for enhanced signal analysis; and
- re-package the TSIS installation to include TRANSYT-7F

McTrans is working with the Center for Multimodal Solutions for Congestion Mitigation (CMS) on multiple research and development projects, which may result in new modeling capabilities for the CORSIM simulator. The CMS is housed in the Transportation Research Center (TRC), which is part of the University of Florida Department of Civil & Coastal Engineering. Examples of such research projects include:

- Two-lane rural highways (similar to those simulated by the TWOPAS application);
- Detailed signal preemption to account for emergency vehicles, actuated timing transition, and buses;
- Addition of ITS-responsive elements to the simulation methodology;
- Integration with traffic management center solutions; and
- Calibration and/or enhancement of the roundabout simulation methodology.

McTrans is soliciting user feedback on these plans as well as any feature or enhancement to the TSIS-CORSIM package that would make it a more useful tool. Please send any comments or suggestions to McTrans at mctrans@ce.ufl.edu with "TSIS Feedback" in the subject line.

HCS+[™]

HCS+ version 5.4 (within HCS+T7F) was released in December 2008. This version follows the previous release of HCS+ version 5.3 in June 2008.

Version 5.4 adds SPUI interchanges to the Interchanges module that implements HCM Chapter 26 procedures for Interchange Ramp Terminals. This version converts the Help system to HTML for added functionality, compatibility with Windows Vista, and a separate Users Guide for each module. The DAITA program received significant changes to better accommodate collecting demand data for oversaturated signalized intersections, included the ability to record end-of-period residual queues for translating into turning movement demand arrival flows.

Version 5.5 is scheduled to include an updated Warrants module to implement changes to the MUTCD procedures. This version will also provide for data file interchanging between the Signals and Unsignal modules. The multiple-period analysis within Signals is planned to include the ability to edit additional data from period to period. Spreadsheet tools that implement the Pedestrian and Bicycle procedures from HCM Chapters 18 and 19 may also be included.

Of course, work on HCS+ to implement the updated procedures (see Page 3) coming in the 2010 Highway Capacity Manual (HCM) is underway. Our goal is to be ready with the HCS+ upgrade to coincide with 2010 HCM publication

TRANSYT-7F[™]

TRANSYT-7F version 11.3 (within HCS+T7F) was released in December 2008. This version follows the previous release of TRANSYT-7F version 11.2 in June 2008.

Version 11.3 offers a variety of new features including HTML Help, ARTPLAN import, and one-touch CORSIM animation for left-hand drive. Efforts are now underway to continuously improve the overall software architecture. Customer feedback will be used to determine new interface and modeling features to be added in upcoming, future versions.

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Product News

TEAPAC Complete Combines All Prior TEAPAC Programs

TEAPAC Complete (Version 8) has been released, merging all prior TEAPAC programs into a single program with new, low pricing for single user/computer licenses and a maintenance plan for free future updates and upgrades.

TEAPAC Complete represents an unprecedented leap forward in the seamless execution of the wide variety of traffic and transportation functions supported through the years by TEAPAC. Just one program and one data file manages all TEAPAC functions and all external programs, for as many as 500 intersections, and as many as 25 scenario conditions each for up to 5 independent scenario issues. TEAPAC Complete offers unprecedented efficiencies for conducting a wide variety of analyses with a minimum amount of hassle and maximum reliability.

All of the functionality of 15 prior TEAPAC programs is now available in a single program, delivered for one low price with a single program license, as follows:

- HCM2000-compliant signalized capacity analysis and full HCM optimization of splits, cycle and phasing (aka SIGNAL2000).
- Estimation of projected volumes for multi-use traffic impact studies, including user-adjustable, automated on-screen traffic assignments (aka SITE).
- MUTCD-compliant signal warrant and multi-way stop warrant analyses (aka WARRANTS).
- Complete traffic count analysis, including peak period determination and import of count data from a multitude of electronic counters (aka TURNS).
- Simplified bandwidth arterial progression optimization with full-color time-space diagrams (aka NOSTOP).
- Full Export Capabilities for well-established third-party programs, such as HCS, TRANSYT-7F, PASSER-II, CORSIM, TS/PP-DRAFT & SYNCHRO/SIMTRAFFIC (aka SIGNAL2000, PRETRANSYT, PREPASSR, PRENETSIM, PRETSPPD and PRESYNCHRO).
- Full Import Capabilities for a complete network created in SYNCHRO Ver 5, 6 or 7 (aka PRESYNCHRO).
- Revolutionary TEAPAC multi-variable, multi-scenario data management for all applications above (aka SCENARIO).
- Seamless exchange of inputs and results between all combined applications, such as peak period volumes, projected traffic volumes, optimized signal timings, computed saturation flow rates, etc.
- One downloadable manual (and one onscreen help system) covers the entire breadth of TEAPAC applications, with full index and improved graphics and output examples.

TEAPAC Complete uses the familiar Visual TEAPAC interface and is upwards compatible with prior versions. Upgrades from prior versions of TEAPAC are available at www.StrongConcepts.com. New licenses are available from Strong Concepts and McTrans.

VISSIM 5.10 Released!

PTV America is pleased to announce the release of VISSIM 5.10 for North American customers. This software release is available to all customers who have purchased the software in the last year or have current software maintenance.

VISSIM 5.1 features the add-on social force pedestrian simulation. This optional feature is the result of over a decade of research and several years of implementation. Also new is a managed lanes module included in the routing decisions dialog is now provided for all VISSIM Level 3 and Level 4 licenses. VISSIM is faster for multi-processor and multi-core computers with multi-threaded processing! Highlights include:

- Multi-threading processing making VISSIM faster on multi-processor and multi-core computers
- User-defined tile sizes for opening background images in 3D – allows much larger background images to be opened with less video card memory
- Pedestrian Simulation (Standalone versions or add-on modules available for VISSIM Levels 2, 3 and 4): Helbing Social Force Model; Supports multiple levels and polygon areas; and Output statistics for travel time and area measurements
- User-defined pricing and decision model for managed lane facilities (standard for Level 3 and 4 licenses only)
- More Ring Barrier Controller (RBC) features: Predefined Basic View option; Alternate Patterns & Queue Detection (user-defined detection status to initiate special functions); SC Communication Mapping (VAP input channel for RBC detection); and PT Telegram Detection for TSP (Calling Point)
- More conflict area parameters: Vehicle class dependence for gaps and the safety distance factor; Additional stop line distance; Optional adherence to the adjacent lane (yielding to lane-changing vehicles); Optional adherence to routes (yielding to turning vehicles); and Avoid blocking of the conflict area (percentage of the non-yielding vehicles checking if there is sufficient space downstream of the crossing conflict area)

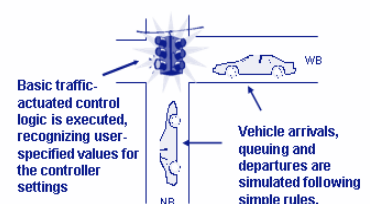
For more information please contact PTV America at sales@ptvamerica.com or 503.297.2556

Traffic Actuated Control Simulator (TACSim)

TACSim is an instructional tool that emulates the functions of a simple two-phase traffic actuated controller. Vehicle arrivals are generated randomly for each second of the operation. A simple queue accumulation and discharge model simulates the operation at the stop line. A control panel gives you access to the basic operating parameters of a traffic-actuated controller, including the initial interval, extension interval, maximum green time, yellow and all-red times.

The control panel also shows the status of all intervals in real time as well as detector status and the signal displays. The beginning of each new interval is announced audibly. By manipulating demand on each approach and the controller's operating parameters it is easy to demonstrate how the control parameters affect the performance of the intersection. The program comes with operating instructions and a PowerPoint presentation on the basics of traffic actuated control.

TACSIM Features



2010 HCM Update

Barbara K. Ostrom, Chair, NCHRP Panel 3-92, Production of the Year 2010 Highway Capacity Manual

NCHRP 3-92 - Production of the Year 2010 Highway Capacity Manual (HCM) has been underway for nearly a year. Preliminary chapters are under review by committee members and friends of the committee. The manual is proposed in a 4-volume format: Concepts, Uninterrupted Flow, Interrupted Flow and Applications with the Applications volume being on-line only. The material for any given methodology will be largely within the associated chapter as users in both surveys and focus groups expressed dissatisfaction with the existing Part II and Part III approach. The transit chapter has been removed because the Transit Capacity and Quality of Service Manual, 2nd edition (TCRP 100) exists. Additionally, materials on pedestrians and bicyclists will be moved into the chapters where they have an impact on operations with the new Pedestrian and Bicycle chapter focused on exclusive facilities for those users.

The Concepts chapter provides the introductory and overview material for the manual as a whole. One new element in the volume will be a discussion of traveler perception, which contrasts operational versus user-satisfaction measures for multiple modes on the urban street. This material was developed under NCHRP 3-70, "Multimodal Level of Service Analysis for Urban Street." A second new element in this volume will be general guidance on the use of alternatives to the HCM. The discussion will incorporate material from NCHRP 3-82, "Default Values for Capacity and Quality of Service Analyses" and NCHRP 3-85, "Guidance for the Use of Alternative Traffic Analysis Tools in Highway Capacity Analyses." The final report on the former was published as NCHRP 599, *Default Values for Highway Capacity and Level of Service Analyses*.

The Uninterrupted Flow volume addresses freeways, multilane highways and two-lane highways. The major changes are a freeway facility level of service definition, a new weaving chapter, and removal of the two-way analysis methodology for two-lane roads. The weaving chapter is a product of NCHRP 3-75, "Analysis of Freeway Weaving Sections."

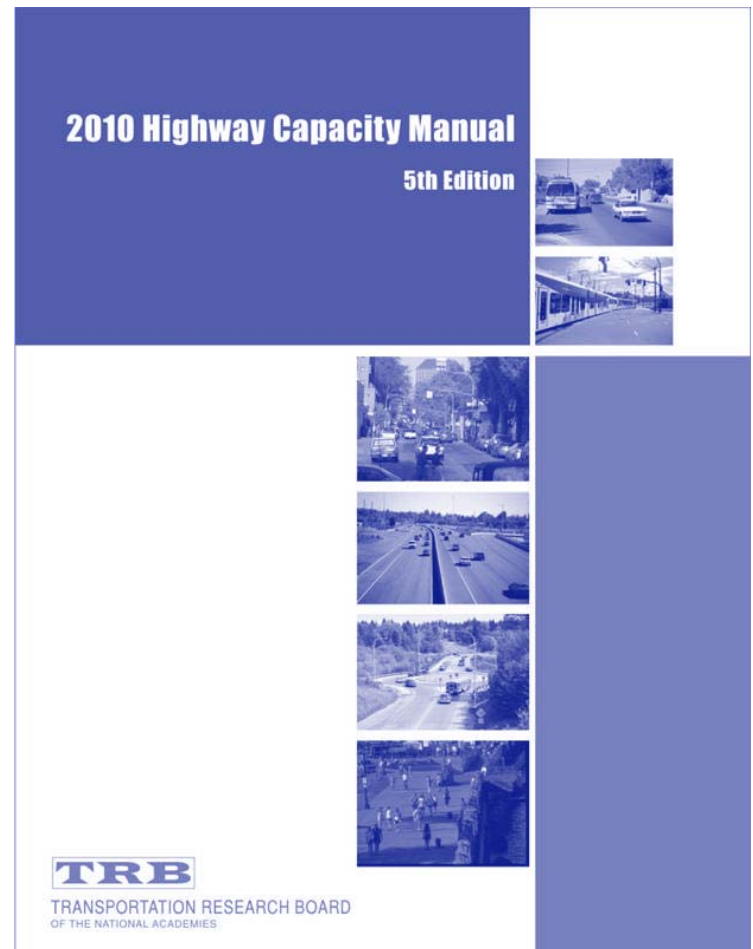
The Interrupted Flow volume addresses intersections (signalized, stop-controlled, roundabouts), urban streets and interchange ramp terminals. The traveler perception research will be incorporated into the urban street facilities chapter, along with the material developed in NCHRP 3-79, "Measuring and Predicting the Performance of Automobile Traffic on Urban Streets." In the signalized intersection chapter, the current equation-based determination of uniform delay and queue will be replaced with an approach based on Incremental Queue Analysis. Additionally, the interchange ramp terminals chapter will be replaced with the work developed by NCHRP 3-60, "Capacity and Quality of Service of Interchange Ramp Terminals."

The Applications "volume" is expected to include a majority of the sample problems, details on some of the more complex, iterative procedures incorporated in the 2010 HCM and case studies to illustrate how the materials in the manual can be applied. The majority of the case studies will be from the existing Highway Capacity Manual Application Guide (<http://hcmguide.com>) updated for methodological changes and with the addition of a case where alternative tools such as simulation need to be considered.

Individuals interested in participating in committee activities should contact the committee Chairman, Rick Dowling (rdowling@dowlinginc.com) or attend the various sub-committee meetings at TRB (see www.ahb40.org for the agenda.)

Members of the committee will be available to make presentations after the final approval of the manual in June 2009. If your professional organization might be interested in a presentation, please contact the User Liaison Group Chair, Bill Sampson (bsampson@ce.ufl.edu) and indicate the likely focus of your group (i.e. general overview of HCM, changes from previous manuals, impact on performance measurement, applications to planning etc.)

Individuals doing software development and wishing to see materials in advance of the publication of the manual should contact the NCHRP Program Officer, Ray Derr (RDERR@nas.edu).



Update Watch

Package	Version	Status	Target	Distribution
HCS+	5.4	Available	December	HCS+T7F Patch Download
TRANSYT-7F	11.3	Available	December	HCS+T7F Patch Download
TSIS-CORSIM	6.1	Available	November	Sent to Registered Users
DYNASMART-P	1.3.0	Complete	Available	Sent to Registered Users
IDAS	2.3	Complete	Available	Sent to Registered Users
QuickZone	2.0	Complete	Available	Sent to Registered Users
TNM	2.5	Complete	Available	Sent to Registered Users

Calendar

Training

Highway Capacity Analysis	February 3-4, 2009	Vero Beach, FL
PTV Vision—VISSIM Intro	February 4-5, 2009	Salt Lake City, UT
Designing Optimized Signals	February 4-5, 2009	Madison, WI
Designing Optimized Signals	March 10-12, 2009	Orlando, FL

Conferences

TRB Annual Meeting	January 11-15, 2009	Washington, DC
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Online Catalog	http://mctrans.ce.ufl.edu/catalog/	(Searching and ordering software)
Order Form	http://mctrans.ce.ufl.edu/orderform/	(For purchase orders and checks)
Training	http://mctrans.ce.ufl.edu/training/	(HCS+, TRANSYT-7F & CORSIM)