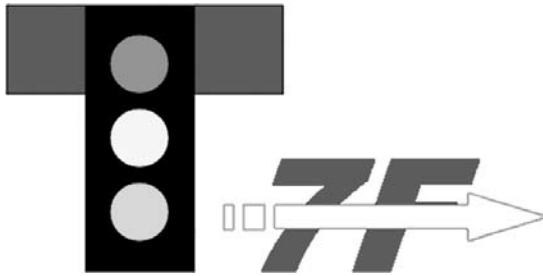


# HCST7F<sup>TM</sup>

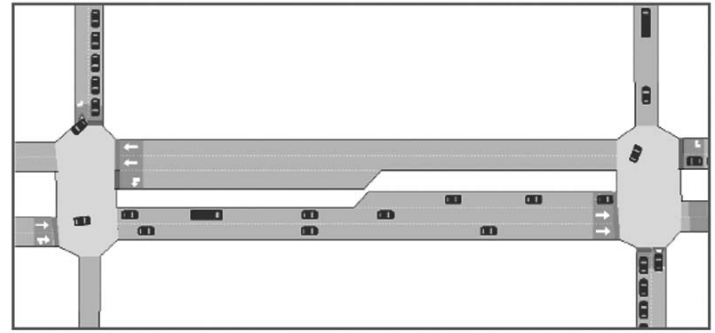
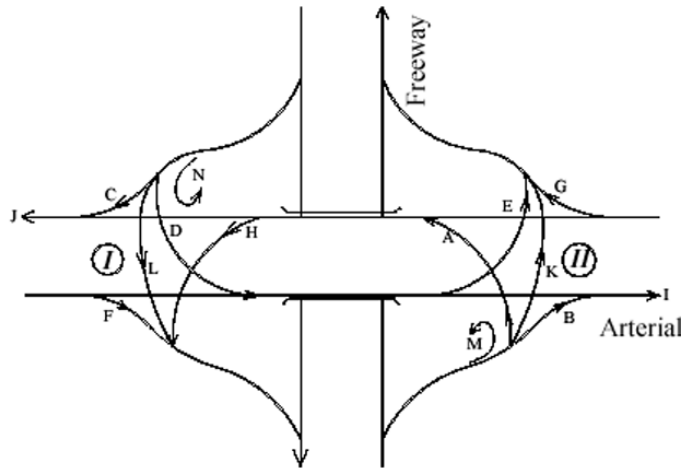
## New Additions and Features

McTrans' latest software development, HCST7F is being tested now. In addition to the integration with TRANSYT-7F (featured in the last newsletter), this version will include the new Interchanges module implementing the recently approved Highway Capacity Manual (HCM) Chapter 26 procedures for Interchange Ramp Terminals.



The new methodology covers the analysis of eight interchange types, including, Single-Point Urban Interchange (SPUI); Diamond Interchange (CUDI, CDI, TUDI); Partial Cloverleaf A – 4 Quadrants (Parclo A 4Q); Partial Cloverleaf A – 2 Quadrants (Parclo A 2Q); Partial Cloverleaf B – 4 Quadrants (Parclo B 4Q); Partial Cloverleaf B – 2 Quadrants (Parclo B 2Q); Partial Cloverleaf AB – 2 Quadrants (Parclo AB 2Q); and Partial Cloverleaf AB – 4 Quadrants (Parclo AB 4Q).

The analysis is based on the procedures for signalized intersections, but adds several components to account for the unique relationship between signals controlling the ramps at interchanges.



**Turn Radius:** Adjusts saturation flow rate for the effects of turning movement geometry on vehicle headway.

**Lane Utilization:** Adjusts the saturation flow rate for uneven lane distribution due to downstream turn proportions.

**Downstream Queue:** Provides for additional lost time caused by the blocking of upstream movements by the queue.

**Demand Starvation:** Provides for additional lost time created when signal timing inhibits the downstream demand.

**Traffic Pressure:** Adjusts the saturation flow rate for the reduction in headway created with higher demand flows.

The measures of effectiveness are computed for the various origin-destination (O-D) pairs to completely describe operations through both intersections. Level of Service (LOS) is provided for each O-D and is based on control delay in seconds per vehicle (like in Signalized Intersections), but with modified LOS thresholds to account for the vehicle traveling through two intersections. There are also two additional provisions for LOS F. If either the volume-to-capacity ratio or the queue storage ratio exceeds 1.0, the LOS is F.

HCS+ registered users will receive the new HCST7F product automatically when released. TRANSYT-7F and HCS2000 users can avoid the price increase by upgrading now at: <http://mctrans.ce.ufl.edu/HCST7F/>

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## New Products

### Visual TEAPAC Gets Addition of SCENARIO

Visual TEAPAC is now available with SCENARIO, a powerful program to create and manage the multi-scenario analyses often conducted with any of the 13 other TEAPAC programs.

#### What Is SCENARIO?

SCENARIO is a new Visual TEAPAC program that can create multi-scenario data files either from scratch or from data files of earlier versions of TEAPAC. Users can:

- select from pre-defined typical scenario structures,
- customize a pre-defined scenario structure, or
- create completely unique scenario conditions.

SCENARIO also functions as a plugin for all other Visual TEAPAC programs so that every program automatically understands the SCENARIO file structure. The primary advantage of using SCENARIO is that all the scenario data is saved without dangers of duplicated data which often occur when scenarios are managed by the typical use of File-SaveAs.

SCENARIO can easily define single-issue or multi-issue conditions, and any data dialog can be assigned or re-assigned to any Issue for as many as five independent, mutually-exclusive Issues. For example, a simple single-issue scenario is multiple volume conditions for one or more intersections for which capacity analysis, intersection design and/or signal timing optimization would be needed with SIGNAL2000. Initially, the VOLUME dialog could be assigned to the Issue named "Volume Conditions" and up to 25 different Conditions could be named and saved with unique volumes.

Later, additional data like PEAKHOURFACTORS and PEDLEVELS could be added to the defined Issue for each condition, and/or additional Conditions could be added. Other examples of a single-issue analysis are multiple years of traffic count data for TURNS or WARRANTS, or multiple years or zones of land use for SITE's projected traffic estimation.

Multi-issue scenarios could be combinations of any of these, where the variation of one variable is independent of the others, such as changing volumes based on the time-of-day and/or day-of-week while independently changing intersection geometrics depending on differing funding possibilities.

#### Why Is SCENARIO So Important?

Multi-scenario analyses are endemic to traffic engineering analyses. Everyone does these types of analyses all the time. So why is SCENARIO such a significant breakthrough? The answer lies in the way that most multi-scenario analyses are currently conducted versus how it is handled with SCENARIO, and the ramifications these differences have on the analyst.

The most common way to create a multi-scenario analysis with ANY program is to open the data file from the first analysis, change the data that defines the second scenario, and use the File-SaveAs menu to save the conditions under a different file name. This is easily done for any number of conditions which are analyzed, and is often extended as the project proceeds to consider scenarios not originally anticipated.

The problem with this approach is that typically 90% or more of the data saved in each file is exactly the same, and if any of that data changes during the course of the analysis, it must be changed in every file. This is a time-consuming and tedious effort that is frequently omitted due to lack of time, budget or motivation. This is where the SaveAs approach breaks down and is often the root cause of numerous problems later on in the project, sometimes even in a debilitating way.

Enter SCENARIO: for data which does not change from case to case, SCENARIO only saves one copy of that data, so if it changes, the change is saved immediately and only once. It is changed quickly, easily and without hesitation, keeping the entire database for all the project analyses internally consistent for any subsequent analyses.

#### Exploit The Power of SCENARIO for Third-Party Software

While SCENARIO is easily seen as indispensable for most any Visual TEAPAC analysis, due to the connection of TEAPAC to many other 3rd-party programs, use of these other programs can also gain a huge advantage from the multi-scenario data management offered by SCENARIO.

For example, while in TRANSYT or CORSIM, SaveAs is typically used to create multiple data files with different analysis volumes and thus huge amounts of duplicate data for all other data entries. Creating duplicate-free data for PRETRANSYT or PRENETSIM is trivial with SCENARIO, and because of the seamless sharing of data files among all Visual TEAPAC programs, the same data is easily used by SIGNAL2000 for HCM-compliant capacity analyses and timing/phasing optimizations, as well as to compute saturation flow rates needed by TRANSYT and CORSIM. Other 3rd-party programs like Synchro, TS/PP-Draft and PASSER-II are easily added to the multi-scenario analysis by the immediate seamless compatibility of PRESYNCHRO, PRETSPPD and PREPASSR.

## Updates

### TRAFFIX 7.9

Dowling Associates, Inc. announces the release of TRAFFIX™ 7.9 traffic impact analysis software.

TRAFFIX™ 7.9 contains many new features, including: a global auto path tool, an auto allocate path percentages option, updated output format to Synchro, a new 2-page per sheet report output format, additional graphical intersection volume reports and HCM updates. A Spanish language option has also recently been added to the software.

TRAFFIX™ allows users to: rapidly forecast the impact of new developments; conduct capacity analyses using HCM, ICU, Circular 212 and other methods; interactively test mitigation measures; determine individual development projects' traffic impact fees; generate comprehensive, concise reports; import from travel demand models and ASCII; and export to Synchro, HCS, XML and ASCII, for multiple intersections and scenarios...all from a single file.

### Visual TEAPAC

Visual TEAPAC has been updated with major enhancements to the 1-click seamless integration of every TEAPAC program. Recent enhancements included in this update are:

- addition of the SCENARIO program as a plugin for every TEAPAC program,
- ability to use long file and path names,
- direct integration of the software with the new online User Discussion Forum for TEAPAC support,
- export both signalized and unsignalized intersection data directly to the new HCS+ program,

- export/import data directly to/from the updated TRANSYT-7F Release 11,
- export/import data directly to/from the updated CORSIM Version 6,
- export/import data directly to/from the updated Synchro/SimTraffic Version 7, including intersection names,
- export/import data directly to/from the updated TS/PP-Draft Version 7, including intersection names,
- increased number of driveways allowed for site developments and longer assignment paths,
- enhanced coordinate system management features, and
- miscellaneous fixes and efficiency enhancements, and the inclusion of continued free support for the coming year.

Visual TEAPAC still has all the graphical, seamless data exchange features originally offered by the first release of Visual TEAPAC, for the 13 TEAPAC programs and 14 third-party programs, including:

- drag-and-drop creation or editing of the analysis network,
- an optional graphics background for ease of creating network and visualizing results,
- right-click access to all data entry and results dialogs,
- enhanced, full-color, graphical output reports,
- optional ring-based signal timing input and viewing,
- one data file for all programs, with up to 500 intersections per file/analysis,
- one-click, instant transfer of control and data from one program to another,
- one-click exchange of results to each other, such as peak period volumes,

PHFs, projected volumes, optimized timings, etc.,

- Help files that include the complete user guide, with free downloadable manuals in printable and searchable .pdf format.

All TEAPAC programs are available as a new license from McTrans and Strong Concepts either individually in 12- or 100-intersection sizes, or as pre-packaged bundles -- use the keyword "TPAC" in the McTrans online catalog, or look for product numbers starting with 'TPC' or program names ending with '/TEAPAC' in the Product List at the end of this newsletter. Special update and upgrade pricing and 500-intersection sizes are available directly from Strong Concepts. The Visual TEAPAC programs updated with this release are SIGNAL2000, NOSTOP, PRENOSTOP, PRETSPPD, PREPASSR, PRETRANSYT, PRENETSIM, PRESYNCHRO, SITE, WARRANTS, TURNS, TED and TUTOR. The packaged bundles affected are the Traffic Engineering Package, the Signal Timing Analysis Package and the Site Impact Analysis Package. Educational discounts are available, and functional demos are available as free downloads at the [McTrans](#) and Strong Concepts Web sites.

Visit [www.StrongConcepts.com](http://www.StrongConcepts.com) for more details about the new SCENARIO program, the generic Visual TEAPAC features and individual programs' changes, as well as example screen-shots, an animated slide-show, a flowchart showing the seamless integration, and new license or upgrade pricing which still features a standard site licensing policy.

## Update Watch

Package	Version	Status	Target	Distribution
HCS+™	5.21	Complete	Available	Patch download
TRANSYT-7F	10.3	Complete	Available	Patch download
TSIS/CORSIM	6.0	Complete	Available	Registered Users may upgrade
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
Turbo Architecture	3.1	Complete	Available	Patch download