

VISUM Release Notes

Version 8

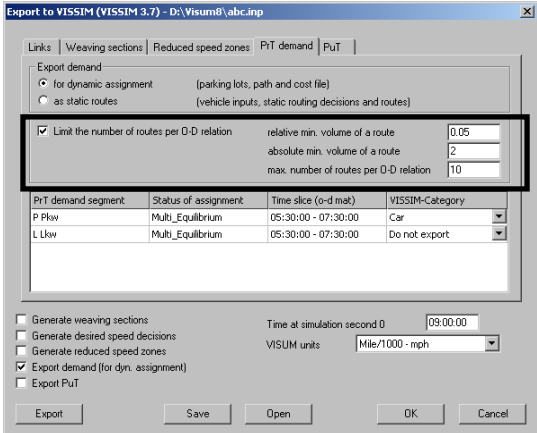
Version 8.13-07

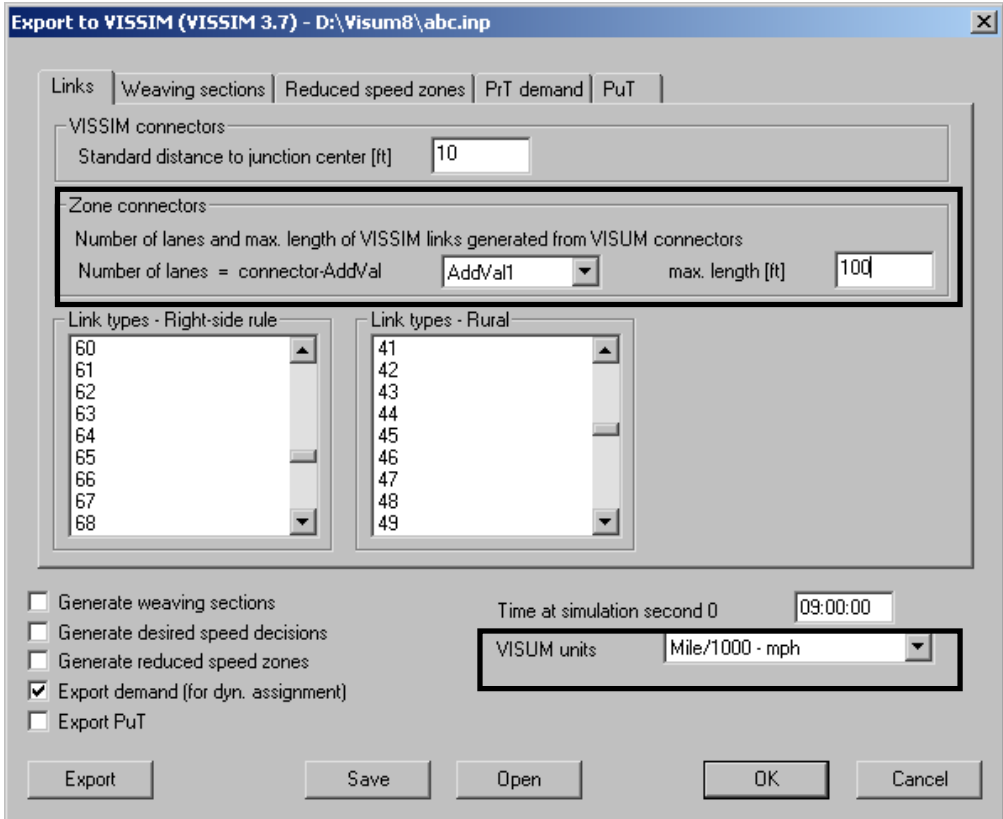
Last modified: 2004-04-30

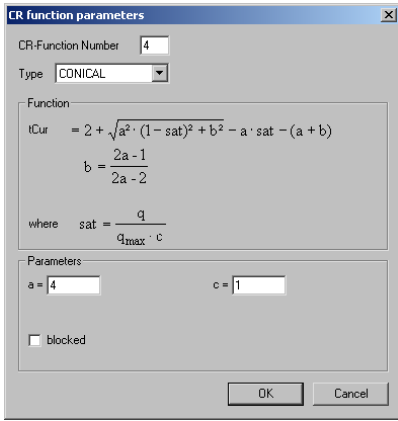
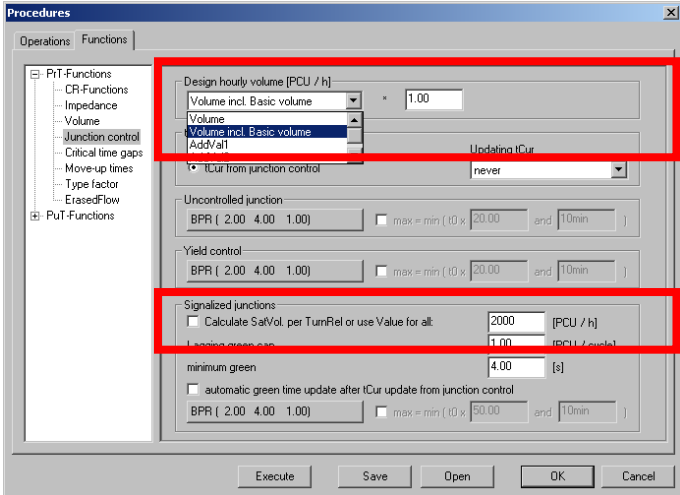


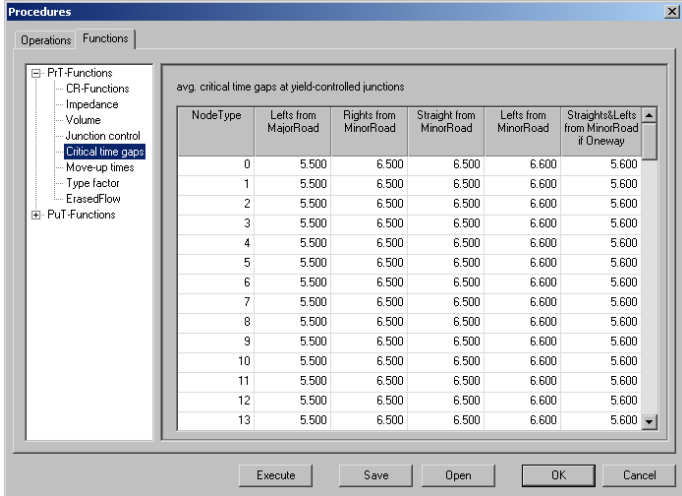
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Fax: ++49/721/9651-299
e-mail: hotline.visum@ptv.de

VISUM Release Notes – Extended Functionality

Version No.	Extended Functionality																																																																																				
8.13-00	<p>CALCULATE – PROCEDURES – PuT functions – Handling of fare zones Fare zones and fare subzones of a particular type can be counted twice. This may be applied to only those fare (sub)zones, where routes neither start nor end ("through traffic" routes only).</p>																																																																																				
8.12-00	<p>More sizes provided</p> <table border="1"> <thead> <tr> <th>Size/max.:</th> <th>Zones</th> <th>Nodes</th> <th>Links</th> <th>Lines</th> <th>Operators</th> <th>Vehicles</th> </tr> </thead> <tbody> <tr><td>A2</td><td>30</td><td>500</td><td>1500</td><td>20</td><td>10</td><td>10</td></tr> <tr><td>J3</td><td>15000</td><td>500000</td><td>1000000</td><td>50000</td><td>300</td><td>1000</td></tr> <tr><td>J4</td><td>15000</td><td>1500000</td><td>3000000</td><td>50000</td><td>300</td><td>1000</td></tr> <tr><td>K1</td><td>32000</td><td>200000</td><td>500000</td><td>50000</td><td>300</td><td>1000</td></tr> <tr><td>K2</td><td>32000</td><td>300000</td><td>600000</td><td>50000</td><td>300</td><td>1000</td></tr> <tr><td>K3</td><td>32000</td><td>500000</td><td>1000000</td><td>50000</td><td>300</td><td>1000</td></tr> <tr><td>K4</td><td>32000</td><td>1500000</td><td>3000000</td><td>50000</td><td>300</td><td>1000</td></tr> <tr><td>L1</td><td>64000</td><td>200000</td><td>500000</td><td>50000</td><td>300</td><td>1000</td></tr> <tr><td>L2</td><td>64000</td><td>300000</td><td>600000</td><td>50000</td><td>300</td><td>1000</td></tr> <tr><td>L3</td><td>64000</td><td>500000</td><td>1000000</td><td>50000</td><td>300</td><td>1000</td></tr> <tr><td>L4</td><td>64000</td><td>1500000</td><td>3000000</td><td>50000</td><td>300</td><td>1000</td></tr> </tbody> </table>	Size/max.:	Zones	Nodes	Links	Lines	Operators	Vehicles	A2	30	500	1500	20	10	10	J3	15000	500000	1000000	50000	300	1000	J4	15000	1500000	3000000	50000	300	1000	K1	32000	200000	500000	50000	300	1000	K2	32000	300000	600000	50000	300	1000	K3	32000	500000	1000000	50000	300	1000	K4	32000	1500000	3000000	50000	300	1000	L1	64000	200000	500000	50000	300	1000	L2	64000	300000	600000	50000	300	1000	L3	64000	500000	1000000	50000	300	1000	L4	64000	1500000	3000000	50000	300	1000
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8.11-00	<p>3 new volume delay functions (CR), mainly for modeling turning impedances Saturation = Volume : (c • Capacity)</p> <p>a) quadratic: $t_{Cur} = t_0 + a + b \cdot Sat + d \cdot Sat^2$</p> <p>b) logistic: $t_{Cur} = t_0 + a : (1 + e^{b-d \cdot Sat})$</p> <p>c) sigmoidalMMF(Morgan-Mercer-Flodin): $t_{Cur} = t_0 + (a \cdot b + d \cdot Sat^f) : (b + Sat^f)$</p>																																																																																				
8.10-05	<p>Assignment: Volume overflow check A warning is displayed if volume exceeds 2,000,000,000. This value range may be reached in case of 3 decimal places (VISUM multiplies demand • 1000 internally).</p>																																																																																				
8.10-02	<p>Environmental impact calculation Add-On: "Nordic" for noise emission calculation Based on "Nordic Council of Ministers (1996): Road Traffic Noise. Nordic Prediction Method. Tema Nord 1996:525 (ISBN-NR: 9291208361)".</p>																																																																																				
8.06-07	<p>Passenger survey Add-On This add-on can handle 3,000,000 data records now, it is no longer limited to 500,000 records.</p>																																																																																				
8.06-06	<div style="display: flex; align-items: flex-start;"> <div style="flex: 1;"> <p>VISSIM-Export: PrT-Demand/Static Routes</p>  <table border="1" style="margin-top: 10px;"> <thead> <tr> <th>PrT demand segment</th> <th>Status of assignment</th> <th>Time slice (o-d max)</th> <th>VISSIM-Category</th> </tr> </thead> <tbody> <tr> <td>P Pkw</td> <td>Multi_Equilibrium</td> <td>05:30:00 - 07:30:00</td> <td>Car</td> </tr> <tr> <td>L Lkw</td> <td>Multi_Equilibrium</td> <td>05:30:00 - 07:30:00</td> <td>Do not export</td> </tr> </tbody> </table> </div> <div style="flex: 1; padding-left: 20px;"> <p>If option "Limit the number of routes per O-D relation" is active, the number of exported routes (static routes only, neither for Dynamic Assignment nor for user-defined export) can be limited by the following parameters:</p> <ul style="list-style-type: none"> relative min. volume of a route: value range [0.00..1.00], relative share of total volume per O-D pair. absolute min. volume of a route: value range [0..999999999 veh.]. </div> </div>	PrT demand segment	Status of assignment	Time slice (o-d max)	VISSIM-Category	P Pkw	Multi_Equilibrium	05:30:00 - 07:30:00	Car	L Lkw	Multi_Equilibrium	05:30:00 - 07:30:00	Do not export																																																																								
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	<p>If all routes of an O-D pair show lower min. volumes, only the route having the highest volume value will be exported.</p> <p>If this highest volume value applies to several routes of an O-D pair simultaneously, the particular length of the routes is regarded in addition (route length = summed up lengths of traversed links only, lengths of zone connectors are not taken into consideration!).</p> <p>If 0 is entered for both of the parameters, they will not have any effect, since each of the routes has a volume value > 0.</p> <ul style="list-style-type: none"> • <i>Max. number of routes per O-D relation:</i> value range [1..999999999]. The routes found and their volumes are checked first (see above). Then, the number of remaining routes per O-D pair is compared to this parameter. If the number of routes found for an O-D pair exceeds this input value, only the routes having the highest volume values will be exported per O-D pair. <p>Volumes of ignored (not-exported) routes of an O-D pair are always assigned to the remaining (exported) routes according to their volume values.</p>
8.06-06	<p>VISSIM-Export: Links/Connectors</p>  <p>From VISUM zone connectors, VISSIM links will be created, their length is automatically reduced to the user-defined "max. length" value.</p> <p>The entered value is computed according to the current <i>VISUM units</i> selection:</p> <ul style="list-style-type: none"> • <i>VISUM units</i> "Meter - Kmh" generates "max. length [m]" values, • <i>VISUM units</i> "Mile/1000 - mph" generates "max. length [ft]" values.
8.06-05	<p>Split link</p> <p>Lane and signalization link data remain unchanged when a link is split.</p>

Version No.	Extended Functionality	
<p>8.06-05</p>	<p>New turning relation attributes (similar to link attributes)</p>	
	<p>NumLines Num Lines (Line network)</p>	<p>Number of lines which use this turning relation.</p>
	<p>NumSLines Num Sublines (Line network)</p>	<p>Number of sublines which use this turning relation.</p>
	<p>NumSLinTSys Num SLinesTSys (Line network)</p>	<p>Number of sublines of one transport system which use this turning relation.</p>
	<p>NumService Num Services (Timetable)</p>	<p>Number of services (vehicle trips) which use this turning relation.</p>
	<p>NumServiceTSys Num ServicesTSys (Timetable)</p>	<p>Number of services (vehicle trips) of one transport system which use this turning relation.</p>
<p>8.06-00</p>	<p>New CR Function for Private Transport New type: CONICAL (Spiess): Select and enter parameters via Menu CALCULATE – PROCEDURES – <i>Functions</i> tag – <i>PrT-Functions</i> – <i>CR-Functions</i> – <i>Insert</i> button.</p>	
<p>8.06-00</p>	<p>Junction control Design hourly volume calculation can also include the basic volume. Enter appropriate factor to calculate the basic volume in passenger car units per hour.</p> <p>Signalized junctions The saturation volume of a turning lane can be</p> <ul style="list-style-type: none"> entered as a constant value to be used for all turning relations or calculated from the capacities of the turning relations. <p>Prerequisite: The capacity values of turning relations have to store the saturation volume per hour. Weighting is performed according to volume.</p>	
	 	

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<p>8.06-00</p>	<p>Yield control</p> <ul style="list-style-type: none"> • Critical gaps and • Move-up times <p>can now be specified by node type.</p> <p>Pre-set default values (had been used internally before) meet the German guidelines (cf. German HBS).</p> 																																																																																																			
<p>8.06-00</p>	<p>PrT assignment: Option "Log convergence criteria to Trace file during assignment"</p> <p>This option is provided for each PrT assignment procedure.</p> <p>Enable/Disable output via menu CALCULATE – PROCEDURES... – Functions – PrT-Functions.</p> <p>Examples: Output of convergence indicators by assignment procedure:</p> <p>LearnProcedure:</p> <table border="0"> <tr> <td>Iteration 4</td> <td>Number of network objects with Delta Imp > Epsilon</td> <td>1394</td> </tr> <tr> <td>Iteration 4</td> <td>DSeg Car-Private Routes total</td> <td>10274</td> </tr> <tr> <td>Iteration 4</td> <td>DSeg HGV Routes total</td> <td>8389</td> </tr> </table> <p>Iteration 4 DSeg Car-Private Convergence indicators</p> <table border="0"> <tr> <td></td> <td>Links</td> <td>TurnRel</td> <td>Conn</td> <td>Total</td> </tr> <tr> <td>avg. absolute volume diff</td> <td>109.036</td> <td>62.531</td> <td>40.500</td> <td>76.330</td> </tr> <tr> <td>rel. avg. absolute volume diff</td> <td>0.117</td> <td>0.090</td> <td>0.038</td> <td>0.096</td> </tr> <tr> <td>rel. number of objects with volume diff < 5%</td> <td>0.694</td> <td>0.752</td> <td>0.799</td> <td>0.735</td> </tr> <tr> <td>Veh. distance</td> <td>429988.540</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Veh. hours</td> <td>95387.608</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Veh. impedance</td> <td>95387.608</td> <td></td> <td></td> <td></td> </tr> <tr> <td>hypo. veh. imp. (shortest path)</td> <td>93434.971</td> <td></td> <td></td> <td></td> </tr> <tr> <td>duality gap</td> <td>0.0209</td> <td></td> <td></td> <td></td> </tr> </table> <p>Iteration 4 DSeg HGV Convergence indicators</p> <table border="0"> <tr> <td></td> <td>Links</td> <td>TurnRel</td> <td>Conn</td> <td>Total</td> </tr> <tr> <td>avg. absolute volume diff</td> <td>17.092</td> <td>9.641</td> <td>6.780</td> <td>11.885</td> </tr> <tr> <td>rel. avg. absolute volume diff</td> <td>0.070</td> <td>0.055</td> <td>0.042</td> <td>0.059</td> </tr> <tr> <td>rel. number of objects with volume diff < 5%</td> <td>0.708</td> <td>0.773</td> <td>0.783</td> <td>0.753</td> </tr> <tr> <td>Veh. distance</td> <td>68261.151</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Veh. hours</td> <td>15160.726</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Veh. impedance</td> <td>15160.726</td> <td></td> <td></td> <td></td> </tr> <tr> <td>hypo. veh. imp. (shortest path)</td> <td>14855.349</td> <td></td> <td></td> <td></td> </tr> <tr> <td>duality gap</td> <td>0.0206</td> <td></td> <td></td> <td></td> </tr> </table>	Iteration 4	Number of network objects with Delta Imp > Epsilon	1394	Iteration 4	DSeg Car-Private Routes total	10274	Iteration 4	DSeg HGV Routes total	8389		Links	TurnRel	Conn	Total	avg. absolute volume diff	109.036	62.531	40.500	76.330	rel. avg. absolute volume diff	0.117	0.090	0.038	0.096	rel. number of objects with volume diff < 5%	0.694	0.752	0.799	0.735	Veh. distance	429988.540				Veh. hours	95387.608				Veh. impedance	95387.608				hypo. veh. imp. (shortest path)	93434.971				duality gap	0.0209					Links	TurnRel	Conn	Total	avg. absolute volume diff	17.092	9.641	6.780	11.885	rel. avg. absolute volume diff	0.070	0.055	0.042	0.059	rel. number of objects with volume diff < 5%	0.708	0.773	0.783	0.753	Veh. distance	68261.151				Veh. hours	15160.726				Veh. impedance	15160.726				hypo. veh. imp. (shortest path)	14855.349				duality gap	0.0206			
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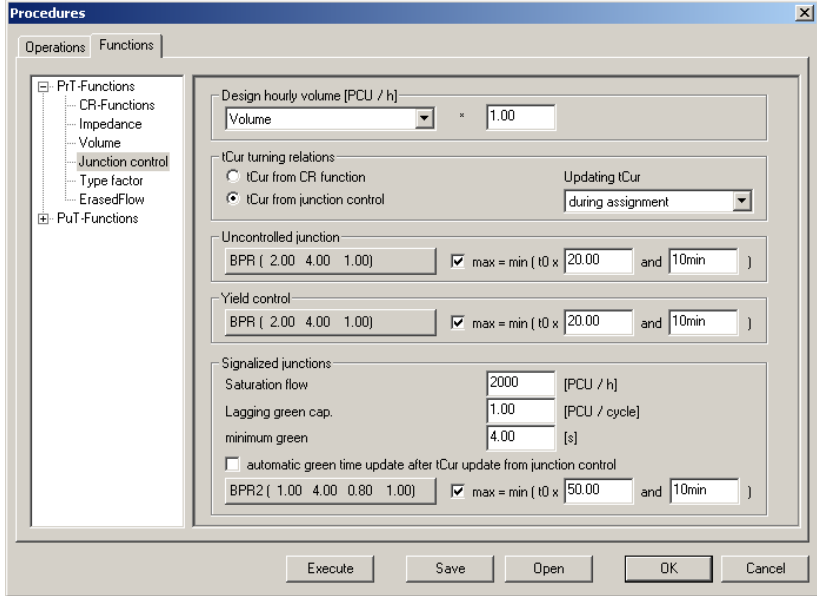
Version No.	Extended Functionality			
	Equilibrium:			
	Iteration 2 DSeg Car-Private	Routes total 7377	Routes new 212	
	Iteration 2 DSeg HGV	Routes total 6104	Routes new 377	
	Iteration 2 Network balance	Step 1	modified OD relations	258
	Iteration 2 Network balance	Step 2	modified OD relations	47
	Iteration 2 Network balance	Step 3	modified OD relations	13
	Iteration 2 Network balance	Step 4	modified OD relations	7
	Iteration 2 Network balance	Step 5	modified OD relations	6
	Iteration 2 Network balance	Step 6	modified OD relations	2
	Iteration 2 Network balance	Step 7	modified OD relations	0
	Iteration 2	Number of deleted routes after OD balancing		341
	Iteration 2	Number of deleted routes after network balancing		165
	Iteration 2 DSeg Car-Private	Convergence indicators		
		Links	TurnRel	Conn
	avg. absolute volume diff	35.610	19.499	6.117
	rel. avg. absolute volume diff	0.022	0.027	0.013
	rel. number of objects with volume diff < 5%	0.906	0.924	0.948
	Veh. distance	422236.538		
	Veh. hours	93507.972		
	Veh. impedance	93507.972		
	hypo. veh. imp. (shortest path)	93434.344		
	duality gap	0.0008		
	Iteration 2 DSeg HGV	Convergence indicators		
		Links	TurnRel	Conn
	avg. absolute volume diff	.741	2.564	1.627
	rel. avg. absolute volume diff	0.018	0.020	0.012
	rel. number of objects with volume diff < 5%	0.925	0.941	0.942
	Veh. distance	67421.221		
	Veh. hours	14861.094		
	Veh. impedance	14861.094		
	hypo. veh. imp. (shortest path)	14850.047		
	duality gap	0.0007		
	Hypothetic vehicle impedance:			
	Minimum impedance value calculated hypothetically for the next iteration step on the assumption that all vehicles – based on the current impedances in the network – used the best path (as calculated by the next all-or-nothing assignment).			
	Duality gap:			
	<i>Duality gap</i> expresses the convergence quality as the volume-weighted difference between current total impedance calculated on the network and the <i>hypothetic veh. impedance</i> if all vehicles would use minimum impedance routes.			
	Incremental:			
	Iteration 1	DSeg Car-Private	Routes total	5499
	Iteration 1	DSeg HGV	Routes total	4724
	Iteration 2	DSeg Car-Private	Routes total	6239
	Iteration 2	DSeg HGV	Routes total	5459
	Iteration 3	DSeg Car-Private	Routes total	7013
	Iteration 3	DSeg HGV	Routes total	6127
	...			

Version No.	Extended Functionality					
	Tribut:					
	* Assignment statistics Tribut - Iteration 3		Demand segment C		*	
	* Links	TurnRel	Conn	Total	*	
	* Impedance	67658.34	8.30	52039.60	119706.24	*
	* TimeCurr	67684.05	8.30	52039.60	119731.95	*
	* AddTime	17706.29	0.00	0.00	17706.29	*
	* Toll	0.00		0.00	0.00	*
	* Assignment statistics Tribut - Iteration 3		Demand segment H		*	
	* Links	TurnRel	Conn	Total	*	
	* Impedance	8952.22	0.63	6881.42	15834.28	*
	* TimeCurr	8955.96	0.63	6881.42	15838.02	*
	* AddTime	2308.34	0.00	0.00	2308.34	*
	* Toll	0.00		0.00	0.00	*

	Iteration 3	DSeg Car-Private	Routes total	5585		
	Iteration 3	DSeg HGV	Routes total	4735		
	TributLearn:					
	Iteration 3	Number of network objects with Delta Imp > Epsilon		1491		
	Iteration 3	DSeg Car-Private	Routes total	9149		
	Iteration 3	DSeg HGV	Routes total	7531		
	Iteration 3	DSeg Car-Private	Convergence indicators			
			Links	TurnRel	Conn	Total
		avg. absolute volume diff	166.905	95.123	70.642	116.898
		rel. avg. absolute volume diff	0.118	0.100	0.058	0.104
		rel. number of objects with volume diff < 5%	0.584	0.691	0.773	0.661
	Iteration 3	DSeg HGV	Convergence indicators			
			Links	TurnRel	Conn	Total
		avg. absolute volume diff	27.069	15.058	11.885	18.747
		rel. avg. absolute volume diff	0.102	0.079	0.064	0.086
		rel. number of objects with volume diff < 5%	0.604	0.720	0.754	0.685

	* Assignment statistics Tribut - Iteration 3		Demand segment C		*	
	* Links	TurnRel	Conn	Total	*	
	* Impedance	51994.25	7.56	43402.07	95403.89	*
	* TimeCurr	52017.90	7.56	43402.07	95427.53	*
	* AddTime	11727.13	0.00	0.00	11727.13	*
	* Toll	0.00		0.00	0.00	*

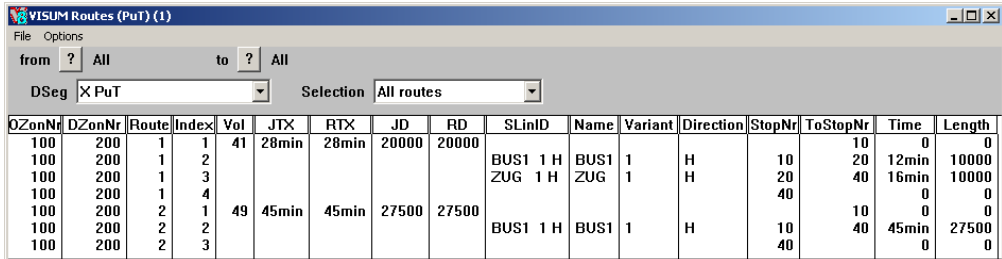
	* Assignment statistics Tribut - Iteration 3		Demand segment H		*	
	* Links	TurnRel	Conn	Total	*	
	* Impedance	8298.74	1.14	6861.76	15161.65	*
	* TimeCurr	8302.41	1.14	6861.76	15165.32	*
	* AddTime	1853.25	0.00	0.00	1853.25	*
	* Toll	0.00		0.00	0.00	*
8.06-00	New link attributes					
	Note: Attribute values are mean values calculated by TSys from assignment result.					
	mean time delay1-PrT	tCur - t0 weighted by volume				
	mean time delay2-PrT	tCur - t0 incl. subsequent turning relations., volume-weighted				
	total time delay1-PrT	(tCur - t0) • volume				
	total time delay2-PrT	(tCur - t0 incl. subsequent turning relations) • volume				

Version No.	Extended Functionality										
8.05-00	<p>COM interface</p> <p>Object <i>RouteSegment</i> provides route search results (PrT+PuT, see LISTINGS – ROUTE SEARCH). Only the results (AttValue) and their number (Count) may be read out.</p>										
8.05-00	<p>TFlowFuzzy</p> <ul style="list-style-type: none"> Various TFlowFuzzy releases may be installed on a single PC at the same time, it is no longer necessary to execute the file <i>regvsf.exe</i> for toggling between different VISUM releases. Prerequisite: The releases have to be installed to different folders. Flow matrix calculation runs much faster after redesign and implementation. 										
8.04-00	<p>Junction Control</p> <p>The junction control functionality serves for calculating turning penalties t_{Cur} for each turning depending on t_0 and saturation of the turning.</p> <p>Option \odot <i>tCur from junction control</i> now allows to select all VISUM CR functions and to define a maximum turning penalty t_{Cur}. This helps to get more realistic results for turning penalties. Using the BPR function with the default parameters $a = 2$, $b = 4$ and $c = 1$ may lead to very high turning penalties for the low ranking streams in case of saturation. During route search these turnings can then behave almost like blocked turnings. This can lead to heavy oscillations during the assignment process. Therefore it is recommendable to select parameters which ensure a lesser slope after saturation. This may be achieved with a parameter of $b \ll 4$ or better with the BPR2 function and a $b' = 1$ when saturation is greater 100%. Additionally it can be useful to set a maximum penalty. This is possible in the following form:</p> <p>$t_{Cur} = \text{MIN} (t_{Cur} \text{ from CR function of junction control}; t_0 \times \text{Factor}; \text{Max } t_{Cur})$</p> <table border="1" data-bbox="365 958 1385 1122"> <thead> <tr> <th data-bbox="365 958 874 992">Example with BPR function:</th> <th data-bbox="874 958 1385 992">Example with BPR2 function:</th> </tr> </thead> <tbody> <tr> <td data-bbox="365 992 874 1025">$t_0 = 20 \text{ s}$</td> <td data-bbox="874 992 1385 1025">$t_0 = 20 \text{ s}$</td> </tr> <tr> <td data-bbox="365 1025 874 1059">Sat = 250 %</td> <td data-bbox="874 1025 1385 1059">Sat = 250 %</td> </tr> <tr> <td data-bbox="365 1059 874 1093">$a = 2, b = 4$</td> <td data-bbox="874 1059 1385 1093">$a = 2, b = 4, b' = 0.8$</td> </tr> <tr> <td data-bbox="365 1093 874 1122">$t_{Cur} = 1583 \text{ s} = 26.4 \text{ min}$</td> <td data-bbox="874 1093 1385 1122">$t_{Cur} = 103 \text{ s} = 1.7 \text{ min}$</td> </tr> </tbody> </table>	Example with BPR function:	Example with BPR2 function:	$t_0 = 20 \text{ s}$	$t_0 = 20 \text{ s}$	Sat = 250 %	Sat = 250 %	$a = 2, b = 4$	$a = 2, b = 4, b' = 0.8$	$t_{Cur} = 1583 \text{ s} = 26.4 \text{ min}$	$t_{Cur} = 103 \text{ s} = 1.7 \text{ min}$
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	<p>A saturation of 250 % is not realistic in real life, but it may easily occur during assignment when the total volume is assigned to one shortest path.</p> <p>If you use the option updating t_{Cur} <i>after assignment</i> please note that the shortest path algorithm will apply for all turnings the t_{Cur} values available at the beginning of the assignment. The values are not initialised, i.e. set to t_0.</p> <p>Please make sure that t_0 is greater than 0 for all relevant turnings!</p> 										

Version No.	Extended Functionality																																																																																												
8.03-16	VISSIM-Export <ul style="list-style-type: none"> • Please note: for exported VISSIM input files VISSIM 3.70 is required. • Export parameters option "<i>Standard VISSIM color for VISSIM link type</i>" removed. Exported link types always keep the color from VISUM graphics parameters. Use display option "<i>Use Link Type Color</i>" (new in VISSIM 3.70) to toggle between grey display of all links grey and color by link type. • Export parameters option "<i>Generate Car1...Car6 for VISSIM category Car</i>" removed. For each VISSIM category CAR one vehicle type is generated. Vehicle types get a default color distribution and a default vehicle model distribution according to VISSIM category (new in VISSIM 3.70: color distribution and vehicle model distribution). • TEAPAC only: now volume figures are exported as absolute number of vehicles, according to total volume and truck percentage per turning relation. • TEAPAC only: numbers of desired speed distributions are generated from speed in mph instead from speed in kmh. 																																																																																												
8.03-15	New Macro command <i>SetLineRoute</i> <LineRouteAttr> <LinkAttr> <Factor> <add(y/n)> generates line route attribute values from link attribute values (see VISUM User Manual, Section 4.9.7.1: <i>Modify</i> in MULTISELECT Mode: <i>Generate Attribute</i> via <i>Attribute</i> button). Examples: <pre style="margin-left: 40px;">SetLineRoute LinRouteLength Length 1.0 n SetLineRoute AddVal Length 1.0 n SetLineRoute LinRouteRunT t-Put(B) 1.0 n</pre>																																																																																												
8.03-15	New Macro commands <i>Modul+</i> <Add-on> and <i>Modul-</i> <Add-on> The command <i>Modul+</i> enables (resp. <i>Modul-</i> disables) the particular VISUM add-on module. The module has to be provided with the VISUM installation. Both, English or German codes can be added, regardless of the VISUM installation language. <table border="1" data-bbox="359 1030 1385 1906" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th data-bbox="359 1030 526 1064">English code</th> <th data-bbox="526 1030 718 1064">German code</th> <th data-bbox="718 1030 1385 1064">Module</th> </tr> </thead> <tbody> <tr><td>ENVI</td><td>UMWE</td><td>Environmental impact calculation</td></tr> <tr><td>PGEN</td><td>TGEN</td><td>Partial network generator</td></tr> <tr><td>EWS</td><td>EWS</td><td>Road construction cost-efficiency analysis (German law)</td></tr> <tr><td>BGRD</td><td>HGRD</td><td>Background module</td></tr> <tr><td>CALI</td><td>KALI</td><td>Calibration</td></tr> <tr><td>MLUS</td><td>MLUS</td><td>MLus</td></tr> <tr><td>IMAT</td><td>IMAT</td><td>Immis-Air interface</td></tr> <tr><td>DYNO</td><td>DYNO</td><td>Dynemo</td></tr> <tr><td>PRT</td><td>IV</td><td>Private transport</td></tr> <tr><td>PUT</td><td>OEV</td><td>Public transport</td></tr> <tr><td>OP</td><td>BETR</td><td>PuT Line costing</td></tr> <tr><td>MOBI</td><td>MOBI</td><td>Mobilev interface</td></tr> <tr><td>MODB</td><td>MODB</td><td>Modal Split</td></tr> <tr><td>VSIM</td><td>VSIM</td><td>VISSIM export</td></tr> <tr><td>UML-</td><td>UML-</td><td>Assignment</td></tr> <tr><td>TRIB</td><td>TRIB</td><td>Tribute (road toll based assignment)</td></tr> <tr><td>DIVA</td><td>DIVA</td><td>DIVA interface (German PuT scheduling software)</td></tr> <tr><td>VSF</td><td>VSF</td><td>TrafficFlowFuzzy</td></tr> <tr><td>PASS</td><td>FGST</td><td>PuT Passenger surveys</td></tr> <tr><td>CP</td><td>ZS</td><td>Census points</td></tr> <tr><td>COM</td><td>COM</td><td>COM interface</td></tr> <tr><td>ERAF</td><td>ERAF</td><td>Erased Flow"</td></tr> <tr><td>EMME</td><td>EMME</td><td>EMME interface</td></tr> <tr><td>TPO</td><td>TVO</td><td>Timetable phase optimization</td></tr> <tr><td>CARG</td><td>CARG</td><td>Cargo</td></tr> <tr><td>IP</td><td>IP</td><td>Interplan Graphical timetable editor</td></tr> <tr><td>JEDI</td><td>KEDI</td><td>Junction editor and junction control</td></tr> <tr><td>GRA-</td><td>GRA-</td><td>Graphics functionality</td></tr> <tr><td>SHA</td><td>SHA</td><td>Shapefile converter</td></tr> </tbody> </table>			English code	German code	Module	ENVI	UMWE	Environmental impact calculation	PGEN	TGEN	Partial network generator	EWS	EWS	Road construction cost-efficiency analysis (German law)	BGRD	HGRD	Background module	CALI	KALI	Calibration	MLUS	MLUS	MLus	IMAT	IMAT	Immis-Air interface	DYNO	DYNO	Dynemo	PRT	IV	Private transport	PUT	OEV	Public transport	OP	BETR	PuT Line costing	MOBI	MOBI	Mobilev interface	MODB	MODB	Modal Split	VSIM	VSIM	VISSIM export	UML-	UML-	Assignment	TRIB	TRIB	Tribute (road toll based assignment)	DIVA	DIVA	DIVA interface (German PuT scheduling software)	VSF	VSF	TrafficFlowFuzzy	PASS	FGST	PuT Passenger surveys	CP	ZS	Census points	COM	COM	COM interface	ERAF	ERAF	Erased Flow"	EMME	EMME	EMME interface	TPO	TVO	Timetable phase optimization	CARG	CARG	Cargo	IP	IP	Interplan Graphical timetable editor	JEDI	KEDI	Junction editor and junction control	GRA-	GRA-	Graphics functionality	SHA	SHA	Shapefile converter
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8.03-15	<p>Save O-D matrix The upper limit of matrix values was set from 100,000,000 to 2,147,483,647 (Integer 4 Byte), as the old maximum value had often been reached/exceeded due to the 1..3 decimal places (see settings in Menue CALCULATE – PROCEDURE – <i>Functions</i> tag – <i>Volume</i>), which means multiplication of integer matrix values by factor 10, 100, or 1000.</p>		
8.03-10	<p>Version size J Size J3 holds 500,000 nodes and 1,000,000 links.</p>		
8.03-09	<p>EMME-Import EMME-Lines dialog: Factor added to option <i>Generate LineRoute-AddVal from EMME-AddVal</i>.</p>		
8.03-07	<p>COM interface: New commands</p> <ul style="list-style-type: none"> • <i>SetActive/Invert/SetPassive</i> for nodes, links, zones, global zones, turning relations, connectors, areas, census points, sublines and the entire network. • <i>SetAreaActive</i> : set area in the network to the active state. • <i>AssignmentState</i>: Output per demand segment (0 = not assigned, 1= assigned.) <table border="1" data-bbox="359 716 1385 1361"> <tr> <td data-bbox="359 716 869 1361"> <pre>Sub TestAssignmentState() Set Visum = CreateObject("Visum.Visum") ' Connect variable Visum with VISUM software Visum.LoadVersion "D:\visum800\exe\Example\example.ver" Set DSegs = Visum.Demand.DemandSegments For Each DSeg In DSegs Name = DSeg.Name State = DSeg.AssignmentState If State > 0 Then Method = DSeg.AssignmentMethod End If Next End Sub</pre> </td> <td data-bbox="869 716 1385 1361"> <pre>Sub SetAreaActive() Dim Area As Object Set Visum = CreateObject("Visum.Visum") ' Connect variable Visum with VISUM software Visum.LoadVersion Cells(3, 2) Visum.Net.SetPassive Visum.Net.SetActive Visum.Net.Invert Visum.Net.SetActive Visum.Net.SetPassive Set Area = Visum.Net.Areas.ItemByKey(1) Visum.Net.SetAreaActive Area Visum.Net.Nodes.SetPassive Visum.Net.Nodes.SetActive Visum.Net.Nodes.Invert Visum.Net.Nodes.SetActive Visum.Net.Links.SetPassive ... Visum.Net.SubLines.Invert Visum.Net.SubLines.SetActive Visum.Net.SubLines.SetPassive End Sub</pre> </td> </tr> </table>	<pre>Sub TestAssignmentState() Set Visum = CreateObject("Visum.Visum") ' Connect variable Visum with VISUM software Visum.LoadVersion "D:\visum800\exe\Example\example.ver" Set DSegs = Visum.Demand.DemandSegments For Each DSeg In DSegs Name = DSeg.Name State = DSeg.AssignmentState If State > 0 Then Method = DSeg.AssignmentMethod End If Next End Sub</pre>	<pre>Sub SetAreaActive() Dim Area As Object Set Visum = CreateObject("Visum.Visum") ' Connect variable Visum with VISUM software Visum.LoadVersion Cells(3, 2) Visum.Net.SetPassive Visum.Net.SetActive Visum.Net.Invert Visum.Net.SetActive Visum.Net.SetPassive Set Area = Visum.Net.Areas.ItemByKey(1) Visum.Net.SetAreaActive Area Visum.Net.Nodes.SetPassive Visum.Net.Nodes.SetActive Visum.Net.Nodes.Invert Visum.Net.Nodes.SetActive Visum.Net.Links.SetPassive ... Visum.Net.SubLines.Invert Visum.Net.SubLines.SetActive Visum.Net.SubLines.SetPassive End Sub</pre>
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8.03-06	<p>Complete Trace and Error files (only NT-based OS) During COM-applications the buffer is set to 0 Byte, thus the files are updated continuously; after execution of a macro command or after an operation selected under PROCEDURES... – OPERATIONS these files are flushed, also when VISUM loses the FOCUS.</p>		
8.03-06	<p>VISSIM-Export</p> <ul style="list-style-type: none"> • If possible, opposite left-hand turning connectors within junctions do not overlap. • Max. number of neighbouring nodes set from 100 (caused abnormal program termination) to 10000. 		
8.03-05	<p>VISSIM-Export VISSIM 3.7 allows only one zone per parking lot. Each VISUM zone connector from/to a VISUM node with more than one zone connector is exported as a VISSIM link.</p>		
8.03-03	<p>New attributes for Area/SLin <i>LinNetLengthDir</i> and <i>RunTime</i>.</p>		
8.03-03	<p>Extended Macro command <i>PutRoutesSave</i> <filename> [Round volumes (0=No, 1=arithm./default, 2=random) [only volumes > 0 (y/n)]] Note: See bugfix version 8.03-04 for new parameters: PutRoutesSave <filename> [Round Volume (0 = no, 1 = arithm(default), 2 = random) [only Vol > 0 (y/n) [DecPlaces, if Round Volume (-1 = internal DecimalPlaces,0..3)]]]</p>		

Version No.	Extended Functionality
8.03-03	Menu CALCULATE – Procedures... – Operations – Operation New operation provided: <i>RoutelImport</i> (read routes from *.rim file). Data format: \$VISION \$ROUTENIMPORT \$VERSION 1 *FromZoneNr;ToZoneNr;Volume(with 3 decimal places) NodeNr;...NodeNr;-1 50;40;4.000;11;12;5;-1 50;10;1.000;11;18;17;6;1;-1 50;70;3.000;11;18;8;7;17;-1 50;40;2.000;11;12;-1 70;50;3.000;6;7;17;18;11;-1 70;50;1.000;6;7;17;6;10;-1 ...
8.03-02	New Macro command TDDF <filename> <DSeg> Save temporal demand distribution for the selected demand segment to file.
8.03-00	PuT assignment procedures Timetable-based 2 and 3, Impedance – Extended dialog New impedance parameter "SLinRoute-AddValue weighted by in-vehile time / summed up". This option allows to reproduce results from VISUM versions before 8.01-13.
8.02-01	VISSIM-Export Minimum connector length = 1 meter now in case of sufficient space (simplifies editing in VISSIM).
8.02-00	PuT indicator matrices Menu CALCULATE – PROCEDURE... – Assignment "Timetable2/3" – Basis / IndicatorMatrices: Adaption time can be determined now as a new PuT supply quality indicator. This O-D value represents the time gap between the departure time desired by the passenger and the actual departure time. The temporal demand pattern can be modified for this evaluation. The resulting time value can be weighted by the passenger volume.
8.02-00	VISSIM-Export The minimum length of a VISSIM connector within a junction is 1.0 m.
8.01-19	Internationalization (I18n) of VISUM In future, a Russian version of VISUM will be available.
8.01-19	VISSIM-Export See Menu EXTRAS – USER-DEFINED ATTRIBUTES – <i>Turning relations</i> : The <i>VISSIM_Stop</i> attribute (e.g. generated during TEAPAC export) is evaluated, in case of 1=TRUE an unconditional stop sign is added to the exported VISSIM connector.
8.01-18	Online Help Menu ? – <i>Help</i> provides the Online Help VISUM 8.
8.01-17	VISSIM Export Lane changes are not permitted within the intersection.
8.01-17	New Macro command AParF <file name> Save assignment parameters to file.
8.01-15	Network Editor: MultiSelect – Modify Links Special functions – StandardValues If PuTWalk has been defined as transport system, the attribute tTime-PuTWalk is calculated from link length and speed-PuTWalk and can be assigned to links as standard values.
8.01-15	New Macro command AreaSublineListToClipboard The macro includes the following steps: <ul style="list-style-type: none"> • Open menu LISTINGS – <i>Areas-Sublines</i> • Calculate attribute values • Copy attribute values into clipboard • Close listing.

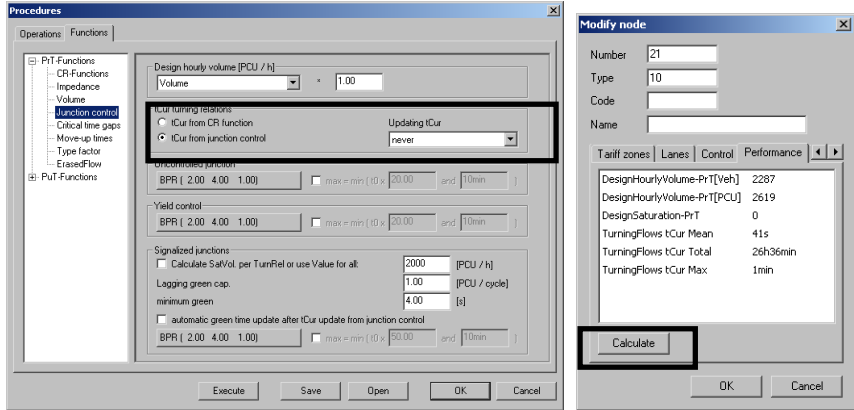
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8.01-14	<p>New Macro command <i>AreaListToClipboard</i> The macro includes the following steps:</p> <ul style="list-style-type: none"> • Open menu LISTINGS – Areas • Calculate attribute values • Copy attribute values into clipboard • Close listing 																																																																																																																																								
8.01-13	<p>Timetable-based Assignment 3 The impedance calculation has been modified for <i>Perceived journey time</i> (PJR). When the SublineRouteAddValue parameter is used, the <i>mean SLinAddValue</i> weighted using the <i>line route time</i> (previously the <i>SLinAddValue</i> total been added).</p>																																																																																																																																								
8.01-13	<p>New node attributes</p> <ul style="list-style-type: none"> • SCNumber: number of the signal control the node is assigned to • SCCycletime: cycle time of the signal control at node 																																																																																																																																								
8.01-12	<p>Reading Background Files Various background files can be selected using the *.* option.</p>																																																																																																																																								
8.01-10	<p>COM interface</p> <ul style="list-style-type: none"> • <i>Object Viewer</i>: Brief function description in English. • New function: <i>GetNearestLink</i> for link search using Online-coordinates of vehicles. 																																																																																																																																								
8.01-06	<p>COM interface</p> <ul style="list-style-type: none"> • English attributes/parameters for RoutenSearch and Isochrones. • Access to vehicle combinations and vehicle types via sublines: Subline::VehicleCombination VehicleCombination::CountVehicleType,CountVehicleNumber,VehicleType 																																																																																																																																								
8.01-06	<p>VISSIM Export DesiredSpeed-Decisions</p> <ul style="list-style-type: none"> • are inserted on VISSIM links generated from VISUM connectors, too, • their positions are checked. <p>SignalGroups:</p> <ul style="list-style-type: none"> • VISSIM-AmberTime = VISUM-Intergreen, • VISSIM-RedAmberTime = 0.0 sec., • VISSIM-PermanentRed, if GreenStart = GreenEnd in VISUM, • VISSIM-PermanentGreen, if (CycleTime – GreenTime) < Intergreen in VISUM. <p>SignalControl: VISUM offset = VISSIM offset (no longer ignored).</p>																																																																																																																																								
8.01-01	<p>Menu Lists – Routes-PuT The route list is displayed for the selected demand segment. The columns <i>ToStop</i> and <i>Name</i>, <i>Variant</i>, <i>Direction</i> of the subline have been added to the list, also <i>Length</i> and <i>Time</i>.</p>  <p>The screenshot shows a window titled "VISUM Routes (PuT) (1)" with a menu bar (File, Options) and a toolbar. Below the toolbar, there are fields for "from" and "to" (both set to "? All"), a "DSeg" dropdown set to "X PuT", and a "Selection" dropdown set to "All routes". Below these is a table with the following columns: OZonNr, DZonNr, Route, Index, Vol, JTX, RTX, JD, RD, SLinID, Name, Variant, Direction, StopNr, ToStopNr, Time, Length. The table contains 10 rows of data.</p> <table border="1"> <thead> <tr> <th>OZonNr</th> <th>DZonNr</th> <th>Route</th> <th>Index</th> <th>Vol</th> <th>JTX</th> <th>RTX</th> <th>JD</th> <th>RD</th> <th>SLinID</th> <th>Name</th> <th>Variant</th> <th>Direction</th> <th>StopNr</th> <th>ToStopNr</th> <th>Time</th> <th>Length</th> </tr> </thead> <tbody> <tr> <td>100</td> <td>200</td> <td>1</td> <td>1</td> <td>41</td> <td>28min</td> <td>28min</td> <td>20000</td> <td>20000</td> <td></td> <td></td> <td></td> <td></td> <td>10</td> <td>20</td> <td>0</td> <td>0</td> </tr> <tr> <td>100</td> <td>200</td> <td>1</td> <td>2</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>BUS1 1 H</td> <td>BUS1</td> <td>1</td> <td>H</td> <td>10</td> <td>20</td> <td>12min</td> <td>10000</td> </tr> <tr> <td>100</td> <td>200</td> <td>1</td> <td>3</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>ZUG 1 H</td> <td>ZUG</td> <td>1</td> <td>H</td> <td>20</td> <td>40</td> <td>16min</td> <td>10000</td> </tr> <tr> <td>100</td> <td>200</td> <td>1</td> <td>4</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>40</td> <td></td> <td>0</td> <td>0</td> </tr> <tr> <td>100</td> <td>200</td> <td>2</td> <td>1</td> <td>49</td> <td>45min</td> <td>45min</td> <td>27500</td> <td>27500</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>10</td> <td>0</td> <td>0</td> </tr> <tr> <td>100</td> <td>200</td> <td>2</td> <td>2</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>BUS1 1 H</td> <td>BUS1</td> <td>1</td> <td>H</td> <td>10</td> <td>40</td> <td>45min</td> <td>27500</td> </tr> <tr> <td>100</td> <td>200</td> <td>2</td> <td>3</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>40</td> <td></td> <td>0</td> <td>0</td> </tr> </tbody> </table> <p>Use the macro command <i>PuTRoutesSave</i> to save more detailed route data to ASCII file: \$+PUTROUTES:DEMANDSEGMENT;OZONENR;DZONENR;ROUTE;INDEX;VOL;JTX;RTX;JD;RD; LINID;LINNAME;LINVAR;LINDIR;NODENR;NODECODE;NODENAME;TONODE;TONODECODE; TONODENAME;TIME;LENGTH PuT;100;200;1;1;41;28min;28min;20000;20000;;;;;A-village;A-village;10;Stat;Station;0;0; PuT;100;200;1;2;41;28min;28min;20000;20000;BUS11H;BUS1;1;H;10;Stat;Station;20;X-city;X-city;12min; 10000; PuT;100;200;1;3;41;28min;28min;20000;20000;ZUG1H;ZUG;1;H;20;X-city;X-city;40;;;16min;10000;</p>	OZonNr	DZonNr	Route	Index	Vol	JTX	RTX	JD	RD	SLinID	Name	Variant	Direction	StopNr	ToStopNr	Time	Length	100	200	1	1	41	28min	28min	20000	20000					10	20	0	0	100	200	1	2						BUS1 1 H	BUS1	1	H	10	20	12min	10000	100	200	1	3						ZUG 1 H	ZUG	1	H	20	40	16min	10000	100	200	1	4										40		0	0	100	200	2	1	49	45min	45min	27500	27500						10	0	0	100	200	2	2						BUS1 1 H	BUS1	1	H	10	40	45min	27500	100	200	2	3										40		0	0
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Version No.	Extended Functionality
8.01-01	New Macro commands <ul style="list-style-type: none"> • TDD <filename> <DSeg> Read temporal demand distribution from file • PuTRoutesSave <filename> Save PuT routes data to ASCII file (EXE-Folder)
8.01-00	Junction Editor Entries and exits at nodes do not have to be of the same length. Now, for closely spaced intersections exit links are shortened.
8.01-00	Assignment parameters Timetable-based 2 and 3: Menu Calculate – Procedures... <i>Impedance</i> tag: Perceived journey time calculation – button <i>Extended...</i> For each, boarding, alighting, and transfer stops, a specific formula regarding the Node_AddValue-specific penalty can be defined separately.
8.01-00	Significantly faster now <ul style="list-style-type: none"> • Specifying a line course, • Calculation and display of PrT-Isochrones.
8.01-00	VISSIM-Export From the VISUM transport system Car, the new Export parameter <input checked="" type="checkbox"/> <i>Generate VISSIM vehicle types Car1... Car6</i> generates 6 vehicle types Car instead of only a single VISSIM vehicle type Car for the VISSIM vehicle category Car. VISUM car volumes are distributed as follows: Car1 = 26%, Car2...5 = 18% each, Car6 = 2%. Please note: This option is not saved with VISUM version files.
8.00-11	COM interface Format of the current VISUM Version No.: "800009" (800=ReleaseNo., 009=BugFixNo.)
8.00-10	Menu Extras – Options – Link Default settings for <i>Split link</i> numbering can be changed: either maxLinkNr in the network +1 or Nr of the split link + 1.
8.00-10	Menu Extras – Macros Command <i>NetCoordMove <DeltaX><DeltaY></i> shifts the coordinates of all network objects.
8.00-10	Menu Extras – PuT Fares Button <i>Delete all</i> in the <i>Edit</i> dialog boxes <i>Distance-based tariffs</i> , <i>Zone-based tariffs</i> and <i>TSys-based supplements</i> .
8.00-10	VISSIM-Export In case of invalid routes detailed error messages are traced to error.txt file.
8.00-10	VISSIM-Export The lane change distance of VISSIM connectors (from deceleration lane to exit ramp) has been set to = 1000 m (constant value). For the main direction the lane change distance has been set to the length of deceleration lane. For acceleration lanes no lane change distance has been set.
8.00-07	VISSIM-Export for Dynamic assignment If no volume was calculated for the exported network, the relative volume of zones (parking lots in VISSIM) is set = 1.0 now instead of 0.0. For data export 'No assignment calculated' means, that none of the exported PrT demand segments has been assigned to the network.
8.00-07	Menu File – Database – Export/Import Access97 files can also be saved using Jet 4.0 Provider.
8.00-06	Menu File – Database – Export/Import This interface provides data exchange between <ul style="list-style-type: none"> • VISUM – Access97, if Jet OLE DB 3.51 Provider has been installed on the PC. • VISUM – Access2000/AccessXP, if Jet OLE DB 4.0 Provider has been installed on the PC. If both, version 3.51 and 4.0 are available, the user has the choice: Using Jet OLE DB 4.0 Provider also Access97 files can be imported.

Version No.	Extended Functionality
8.00-06	Impedance – Route search (Private Transport) The maximum impedance (usually tCur) of a route or a network object has been raised by factor 100 from 1000h to 100000h. Thus, also very long routes can be found, e.g. in continental networks.
8.00-06	DXF-Converter For *.hgt files with OBJECT type data blocks, the new parameter /k is recommended (DXF INSERT Blocks with offset of coordinates), if the background does not appear in the correct position after conversion.
8.00-05	Attributes – Listing/Saving/Reading Output attributes have been added to the <i>Key.txt</i> file in the VISUM800/exe folder, and some of the input attributes have been renamed. If the new code of an attribute differs from its original code, the new column title is not displayed when this attribute is read from an existing list layout file *.lla.

VISUM Release Notes – BugFix

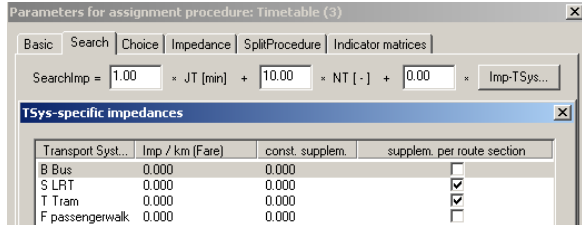
Version No.	BugFix
8.13-07	Print Background objects Program crash discarded (occured only in case of JPEG files etc. located completely outside of the print area).
8.13-06	Save filter data and version file A user-defined attribute entered as a filter criterion and deleted afterwards caused saving of illegible filter data and version files. Filter data and version files are now saved correctly.
8.13-05	Sublines selection list Program crash (in case of more than 32 768 sublines) discarded.
8.13-04	Insufficient memory Discarded: Program crash in case of insufficient memory caused by more than 100 assignments without intermediate Save/Open version file.
8.13-03	User-defined attributes No endless loop in case of 255 attributes (Total = VISUM attributes + UDAs) per network object type.
8.13-02	Timetable-based assignment Option " <i>No connection within time interval -> use earliest connection outside</i> " now also regards the case, that only connections BEFORE the assignment interval might exist.
8.13-02	Read network additionally Option " <i>Use existing line routes</i> " caused endless loops in case of links traversed several times within one line route.
8.13-02	VISSIM Export Right-Turn-On-Red created priority rules for the permitted direction.
8.13-02	MODIFY NODE –Tariff zones tag Tariff zones entries are stored.
8.13-02	Plot output Plots without "strange" lines.
8.13-01	Menu LISTINGS – ROUTES : Route list for a public transport demand segment Crash resulting from column(s) <i>Num tariff zones / Num tariff subzones</i> discarded.
8.12-00	Aggregate public transport volumes in case of NumDecimalPlaces > 0 (Volume_PuT) Values are only rounded when necessary (e.g. passenger trips).
8.12-00	Tariff zones Correct calculation of the number of traversed tariff subzones, even if a boarding stop belongs to several tariff subzones.
8.12-00	Passenger survey Add-on During subsequent calculation recorded path will no longer be allocated to WalkLinks.
8.10-07	Assign standard values to link attributes in case of more than 30 TSys Program crash discarded, e.g. during <i>Line route check</i> after <i>Insert link</i> with 31 TSys.
8.10-07	Shift link labels Correct display of shifted link labels at all links, not only for the first 32768 FromNodes.
8.10-06	Menu NETWORK – USER-DEFINED ATTRIBUTES... No program crash if a user-defined attribute is deleted though it is still selected for graphical display or as filter criterion.
8.10-05	SCJ optimization Correct green time calculation for signal groups with 3 or more stages in case of duration = 0 is calculated during optimization for one of the stages (except first and last stage).
8.10-05	Erased Flow Add-on After changes to the Erased Flow parameters the dialog is updated.

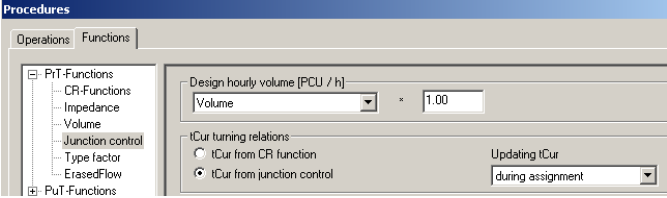
Version No.	BugFix
8.10-05	tCur at signalized intersections Penalty t0 is now considered for tCur calculation.
8.10-05	CR function Conical Correct value calculation.
8.10-04	Macro command PartNet (Partial network generator Add-on) Matrix is saved correctly (binary data format).
8.10-03	PuT Passenger survey – Plausibility Add-on Preceding line: Selection of possible departure times extended (WalkLinks).
8.10-02	VISSIM-Export <ul style="list-style-type: none"> Also in case of several demand segments, a correct Input file is created via Export which will be legible in VISSIM, as numbers do not occur twice. Junction Editor: The Export functionality now regards also conflicts which have not been considered before, e.g. "two-lane turning relation leads to two-lane link".
8.10-01	Waiting time calculation at signalized intersections with closed tuning relations In rare cases, the calculated capacity value of the particular lane was too low. 
8.10-00	Menu ? – Info "Info" Dialog: Version 8.1 Update via HTTP link; update via FTP is no longer supported.
8.10-00	Read Version file Program crash discarded.
8.10-00	Read Network file Value 0 is no longer permitted for NodeNo., ZoneNo. etc.
8.07-00	PuT Passenger Survey Add-on Direct assignment provides correct results in case of volume values with decimal places.
8.07-00	LineBlocking (PuT Line-costing Add-on) Operator data is considered accordingly even if OperatorNo. differs from OperatorIndexNo.
8.06-05	Dialog "Modify subline – Stops" Align/Board settings of coupled line route sections are not subject to changes. For other lines serving those stops the buttons cannot be activated either.
8.06-04	Menu CALCULATE – PARTIAL NETWORK GENERATOR... Abnormal program termination fixed.
8.06-03	Junction geometry generation For lane lengths, the default value is only used in case of missing input value.
8.06-02	VISSIM Export <ul style="list-style-type: none"> available also for left-hand traffic now. no priority rules missing at yield-controlled junctions. VISSIM-Connectors -> VISUM-TurnRelations: outermost lanes are connected correctly.
8.06-02	Menu LISTINGS – STATISTICS – Link types Data format for output of time periods can be selected by the user now.

Version No.	BugFix
8.06-01	Split subline (Generating a subline per vehicle trip) If one of the automatically generated numbers coding newly generated sublines does already exist in the network, the function will no longer be terminated, but a free subline number will be assigned.
8.06-00	Menu LISTINGS – PUT TRANSPORT SYSTEMS Correct output of attribute value <i>Stop-served</i> .
8.06-00	Junction control Calculating tCur with small capacities remaining used to cause an abnormal program termination during automatic selection of stage templates. This bug has been fixed by implementation of a minimum capacity of 0.1 veh/h per turning relation.
8.06-00	VISSIM Export <ul style="list-style-type: none"> • Bus stops are placed on the outermost lane, not necessarily on lane 1 (left-hand traffic). • Pedestrian crosswalks changed to right-hand traffic; • Priority rules completed for right-turn-on-red; • Double points within link polygons eliminated.
8.06-00	Menu CALCULATE – PROCEDURES... – Operation <i>PuT interlining matrix</i> –Execute button Less memory required, no abnormal program termination in case of large networks.
8.05-00	Split link (repeatedly) with user-defined TurnRel-attributes UDAs of the turning relations at FromNode and ToNode of the split link are kept.
8.05-00	Generate zones The procedure runs faster, especially in case of deleted matrices.
8.05-00	Time data format, when the following steps are executed: <input checked="" type="checkbox"/> User-defined format (SAVE NETWORK without Table \$NETPARA) and <input checked="" type="checkbox"/> Read network additionally VISUM does not use current settings under EXTRAS - OPTIONS – <i>Time format</i> automatically, thus e.g. time penalties in seconds will not change to minutes by mistake.
8.05-00	Passenger survey add-on Accelerated <i>Direct assignment</i> procedure.
8.05-00	Read POI attributes from *.att file Also user-defined attributes can be read from POI attribute file.
8.05-00	Menu CALCULATE – MATRIX CORRECTION - TFlowFUZZY The session is not terminated when TFlowFuzzy is clicked without <i>Read Network</i> or <i>Calculate assignment</i> before.
8.05-00	Line blocking Day change (midnight) considered correctly.
8.04-01	Insert Vehicle combination Current settings of vehicle combinations assigned to line services remain unchanged, when another vehicle combination is added to the list of defined vehicle combinations, even if the number of the new combination is not continuously ascending in the list of defined vehicle combinations (Menu EXTRAS – PUT VEHICLE TYPES – VEHICLE COMBINATIONS tag <i>Insert</i> button).
8.04-01	If Line filter is active: Copy subline and specify line route No abnormal program termination.
8.03-12	Shapefile Converter The Add-on module is registered correctly now.
8.03-11	PuT indicator Adaption time (see Version 8.02-00 New Functionality) Correct calculation.
8.03-11	Version Update via Download button Includes also the updated version of file std.zgi.
8.03-10	Modify subline – "Service trips" dialog Button <i>User</i> opens the "User-defined service-trip attributes" dialog.

Version No.	BugFix				
8.03-10	Link attribute <i>TSysCode</i> Import Column <i>TSysCode</i> was imported as "empty string" from attribute file or clipboard, when the columns were arranged like this: linkID-columns (Nr. FromNode), <i>TSysCode</i> .				
8.03-08	Shapefile Converter The ShapeFile Converter add-on is installed completely now.				
8.04-00	Junction Editor / Junction Control "Dead Ends" (lanes without successor) do not cause faulty results (e.g. negative impedance) when <i>t_Cur</i> is calculated for turning relations.				
8.03-16	Modify subline Dwell times at stops are set to 0 when a line route section is copied via <i>COPY – Range</i> button. Timetable data is copied correctly when the line route is shortened at the beginning.				
8.03-15	Partial network Generator If only one direction of traffic flow was active due to link filter settings, VISUM occasionally crashed during generation of virtual zones.				
8.03-14	Impedance calculation at yield-controlled junctions For p0.7 (HBS) congestion probability is no longer set to 1.0, incoming flows are not blocked.				
8.03-14	PuT assignment parameters <i>Timetable3 – Impedance tag –Extended...</i> button In-vehicle time: Option <i>SubLineRouteAddValue summed up</i> is stored and calculated.				
8.03-14	<p>Read Network in Version 8.0: Attribute <i>TSysCode</i> in data block <i>\$TurningRelation</i> Starting with VISUM 8.0 the ASCII file also stores those turning relations which are not permitted to be used by any transport system. See example network data 8.0 <i>TSysCode</i> column: blocked TurnRelations without entry.</p> <table border="1"> <thead> <tr> <th>VISUM 7.5 (extract)</th> <th>VISUM 8.0 (extract)</th> </tr> </thead> <tbody> <tr> <td>\$VISION \$VERSION:VersNr;FileType;Language 1.0;Net;E \$TURNINGRELATION:FROMNODE;VIANODE;TONODE;<i>TSysCode</i>;t0-PrT;Cap-PrT;TYPE 10;11;20;BPL;0;99999;1 10;11;41;BPL;0;99999;2 11;10;12;BZFPL;0;99999;3 11;20;21;BPL;0;99999;2</td> <td>\$VISION \$VERSION:VersNr;FileType;Language 2.60;Net;E \$TURNINGRELATION:FROMNODE;VIANODE;TONODE;<i>TSysCode</i>;t0-PrT;Cap-PrT;TYPE 10;11;10;;0;100000;0 10;11;20;BPL;0;99999;1 10;11;41;BPL;0;99999;2 11;10;11;;0;100000;0 11;10;12;BZFPL;0;99999;3 11;20;11;;0;100000;0 11;20;21;BPL;0;99999;2</td> </tr> </tbody> </table> <p><i>Read Network</i>: all turning relations resulting from data blocks <i>\$Node</i> and <i>\$Link</i> above were</p> <ul style="list-style-type: none"> blocked by default for all <i>TSys</i> in VISUM 7.5, permitted by default for all <i>TSys</i> in VISUM 8.0 until <i>VersNr</i> 2.5. (see below) <p>If a network file which originally had been saved using VISUM 7.5 was read later using VISUM 8.0 until *.net data format Version 2.5 (cf. <i>VersNr</i> in *.net file header), then all turning relations originally blocked for all <i>TSys</i> were automatically permitted for all <i>TSys</i> by mistake. Since VISUM 8.0 Network data format Version > 2.5 network files generated with VISUM 7.5 can be read without problems.</p>	VISUM 7.5 (extract)	VISUM 8.0 (extract)	\$VISION \$VERSION:VersNr;FileType;Language 1.0;Net;E \$TURNINGRELATION:FROMNODE;VIANODE;TONODE; <i>TSysCode</i> ;t0-PrT;Cap-PrT;TYPE 10;11;20;BPL;0;99999;1 10;11;41;BPL;0;99999;2 11;10;12;BZFPL;0;99999;3 11;20;21;BPL;0;99999;2	\$VISION \$VERSION:VersNr;FileType;Language 2.60;Net;E \$TURNINGRELATION:FROMNODE;VIANODE;TONODE; <i>TSysCode</i> ;t0-PrT;Cap-PrT;TYPE 10;11;10;;0;100000;0 10;11;20;BPL;0;99999;1 10;11;41;BPL;0;99999;2 11;10;11;;0;100000;0 11;10;12;BZFPL;0;99999;3 11;20;11;;0;100000;0 11;20;21;BPL;0;99999;2
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8.03-13	Database Export Table VEHCOMB_USERATT can be imported: The first column is named correctly now (<i>Nr</i> instead of <i>VehType</i>). Table VEHTRIP: Attribute value <i>VehCombNr</i> is saved correctly now (instead of a random <i>VehTypeNr</i>).				
8.03-08	Difference network and Relation filter The Relation filter is disabled when a <i>Difference network</i> is calculated or read from *.ver file. The Relation filter becomes available after "New", "Open network" or "Open version".				
8.03-08	Print output to BGrd and DXF No abnormal program termination if <i>Visum</i> is selected instead of <i>Windows</i> .				
8.03-08	Timetable phase optimization Add-on TPO enabled for languages other than German.				

Version No.	BugFix
8.03-08	Plausibility Add-on Preceding route calculation used to result in an endless loop.
8.03-08	Junction Editor Optimization of signal control crashed in case of nodes with blocked turning relations.
8.03-08	VISSIM-Export Correct export of Greentimes (amber is no longer added to red end).
8.03-07	Attributes Attribute <i>LastArrival</i> calculated correctly now if operating day starts at <> 0:00 a.m.
8.03-07	Line selection list No abnormal program termination caused by key <F5>.
8.03-07	VISSIM-Export / Junction Editor Unconditional stop signs (dynamic attribute VISSIM_STOP) always considered for export.
8.03-05	VISSIM-Export / Junction Editor In some cases VISUM did not recognize changes to the number of lanes of a link.
8.03-04	List Areas-Sublines Attribute <i>Length</i> is displayed in [m] now (instead of [km]).
8.03-04	Macro command PuTRoutesSave Number of decimal points added to optional parameters: PutRoutesSave <filename> [Round Volume (0 = no, 1 = arithm(default), 2 = random) [only Vol > 0 (y/n) [DecPlaces, if Round Volume (-1 = internal DecimalPlaces,0..3)]]] The <i>Internal</i> option uses the number of decimal places as currently specified under Menu CALCULATE – PROCEDURES... – Functions – PrT-Functions – Volume. Error when using the <i>Random</i> option has been corrected.
8.03-04	Junction control For mixed lanes with TurnRel volumes which are partly = 0 and partly > 0, the capacity had been set = 0 for a TurnRel with volume = 0, resulting in tCur = infinite. This bug has been fixed by a internal junction control volume minimum = 0.0001 vehicles.
8.03-03	Passenger Survey Indicators are now calculated correctly.
8.03-03	Windows XP Running XP, status bar and graphic screen display are now also updated correctly after several VISUM operations without system events, such as e.g. <i>Read matrix</i> , <i>Save network</i> .
8.03-03	Menu CALCULATE – Procedures... – Functions – PrT Functions – Junction control <ul style="list-style-type: none"> abnormal program terminations (only Version 8.03-01/-02) have been fixed, no unnecessary update of junction controls in case of TurnRel-tCur "<i>from CR function</i>" or Updating tCur "<i>after/during assignment</i>".
8.03-03	Junction Editor Priority rules for combined lanes (Position 0.0) work correctly now.
8.03-01	Save Version No abnormal program termination in case of incomplete node geometry (junction editor).
8.03-01	Copy Subline In Version 8.03-00 only the destination terminal of the subline route was copied.
8.03-00	Specify subline route During line route specification, a selected node has to be a stop.
8.03-00	Merge nodes / Modify NodeNumber Manually defined major flows are now adapted.
8.03-00	Search for Network object The Status bar is now updated when switching to another network object type.

Version No.	BugFix
8.03-00	User-defined attributes of Census Points <ul style="list-style-type: none"> are saved with the network file now, are still missing in the database (due to format changes).
8.03-00	PrT Indicator matrices In case of <i>Weighting by route volumes</i> and matrix value(s) = 0 sometimes the warning appeared: "Cannot save indicator matrix.". This bug has been fixed.
8.03-00	VISSIM-Export <ul style="list-style-type: none"> fixed problem with connectors to pockets starting upstream of ends of connectors from basic VISUM link, pockets were not used and vehicles disappeared due to that. left turn on red for left-hand traffic corrected.
8.02-03	VISSIM-Export <ul style="list-style-type: none"> Generation of left-hand traffic junction geometry: no more right turns crossing straight turns Generation of left-hand traffic junction geometry: left turn pockets now shorter than right turn pockets by default. bug in generating VISSIM nodes (for dynamic assignment).
8.02-02	Add-on Passenger Survey – Plausibility Handling of circle lines (as preceding/succeeding line) has been improved, especially of those with only one vehicle trip.
8.02-02	Node attribute Stop (yes/no) The French translation in the key.txt file caused problems in database export. An additional row without ê has been added.
8.02-01	Insert subline Sometimes, nodes with attribute Stop=FALSE were added to the tables Times and Lengths. This bug has been fixed.
8.02-00	Operation Generate zones –Parameters (Menu CALCULATE – PROCEDURES) Both options can be checked/unchecked now.
8.02-00	VISSIM-Export VISSIM connectors are now calculated and displayed correctly for nodes which have not been modelled with the Junction Editor.
8.01-17	Junction Editor The length of pocket lanes is now calculated correctly.
8.01-16	Junction Editor Missing priority rules for left-turns without signal protection have been added. Priority rules of multi-directional lanes are now handled separately, they are no longer combined with priority rules for turning relations.
8.01-16	PuT assignment: Timetable 3 – Search tag – Imp-TSys... button  <p>Constant supplement is regarded correctly, also if option <i>Suppl. per route section</i> is not active.</p>
8.01-16	Copy subline – Range button When the original line route is shortened for the copied subline, the new line route ends at the stop selected in the <i>To</i> list.
8.01-15	Dialog "Modify subline" – Timetable tag Correct departure times from line route stops served prior to stops with departure time 0:00.
8.01-15	Dialog "Modify area" –Basic tag <i>Basic</i> data are no longer reset to default values if this tag is not opened by the user.

Version No.	BugFix
8.01-14	Dialog "Modify stop": Name of stop Stop names were cut after a blank and are now displayed completely.
8.01-12	PrT Indicator Matrix PrT indicator matrices are now generated correctly with option "minimum impedance".
8.01-12	DIVA Import Reading DIVA data also column "operat. days" is imported.
8.01-12	Reading O-D matrix Messages are saved to Error file while reading, even if option "no warnings" is selected.
8.01-12	Nodes – Signal Control Dialogs use an Ultra Grid tool for better handling. Turning relations have been redefined for signal control (without turning relations from/to links closed to all transport systems).
8.01-12	PrT Indicator Matrix PrT indicator matrices are now calculated correctly with option "minimum impedance".
8.01-11	Version size VISUM Open File: An Error Message is displayed instead of abnormal program termination if max. permitted number of links is exceeded.
8.01-11	Main line <ul style="list-style-type: none"> • Insert: Identical names with/without capital letters no longer possible. • Insert/Modify: no abnormal program termination after numerous Insert/Modify operations.
8.01-11	Generate connectors Version file with generated connectors does not cause an abnormal program termination (assignment result is reset to zero now prior to generation of connectors).
8.01-11	Line costing add-on Value range of Operator cost and Revenue/year modified: max. 9 digits.
8.01-10	Menu Calculate – Procedures... – Transfer quality Calculation for the PuT line network (Add-on module <i>Passenger Survey</i> not required).
8.01-10	Junction Editor Splines for Left-Turns have been improved: max. inner radius = 6 m now.
8.01-10	Menu Listings – Nodes <i>TransferList</i> -Layout files *.lla created with Version 7.5 etc. can still be used, though this node list type had been discarded (same as <i>Transfers at stop</i>).
8.01-09	Menu Calculate – Procedures... – PuT-assignment – Line-based – Parameters – Basis Line-based assignment procedure: No abnormal program termination, if all entry fields are used for mean headway calculation.
8.01-09	VISSIM-Export / Junction Editor Connecting links to additional lanes start at 0.06 m now.
8.01-08	VISSIM-Export VISSIM could not read the VISUM Export file.
8.01-07	Menu Calculate – Procedures... – Functions – PrT-Functions – Junction control Updating tCur during assignment caused abnormal program termination. 

Version No.	BugFix
8.01-06	Menu File - Database - Export/Import "Read Network – Cancel" or incomplete tables in database caused abnormal program termination. Now all opened tables are closed.
8.01-06	VISUM-Online in COM-Mode Warning " <i>Your version will expire after .. days</i> " caused errors, it is no longer displayed in COM-Mode.
8.01-06	Read AddValues of Sublines has been fixed.
8.01-06	TFlowFuzzy New French version of the file <i>VStromF.dll</i> generated after changes to translations.
8.01-06	Overlapping nodes "Modify node – Lanes" dialog caused abnormal program termination in case of overlapping nodes.
8.01-05	Modify Node: Coordination groups Defined Coordination groups are stored now, when the Node Dialog is closed by clicking <i>OK</i> in one of the other Node dialog tags.
8.01-05	VFlowFuzzy: Update based on origin/destination demand of zones Zone_AddValues are now used appropriately (message "insufficient memory" before).
8.01-05	Menu Listings – Routes-PuT Names and codes of stops are now assigned correctly to the listed stop numbers.
8.01-05	Modify subline: Running time and dwell times at stops Entries are no longer limited to max. 12 h.
8.01-05	Aggregate sublines Weighting of run times is calculated correctly, even in case of very long line route sections.
8.01-03	Macro command <i>PuTRoutesSave</i>: Save PuT route data to file Attribute name LENGTH corrected.
8.01-02	VISSIM-Export A user-defined route decision is shifted to the previous link, if it has been placed on a link, which is too short.
8.01-01	Menu Calculate – Procedures... Button Save The length of file names has been set to max. 255 characters instead of 80.
8.01-00	Line-based assignment The PuT indicator <i>In-vehicle-time-TSys</i> includes the dwell times at stops now.
8.01-00	Menu File – Database - Export/Import <ul style="list-style-type: none"> • Table VEHICLETYPE: Column <i>Powered</i> was missing in database. • Table AREA0: Column <i>Code</i> was missing in database. • Table VERSION: DB-VersionNo. set to 2.8 now, data from version 2.7 can still be read. • Table LINETIMETABLE_USERATT: export was not possible.
8.01-00	Menu Extras - PuT-Fares – Button Supplements Entries <i>Fixed supplement</i> and <i>Rank</i> are now stored correctly.
8.00-11	Menu File – Database - Export/Import Table LINCOUPLGRP: Data type of column NAME has been corrected for Export.
8.00-11	COM interface SaveAccessDatabase saves data in standard format only (format in INI-file was used before).
8.00-11	PrT or PuT Add-ons Assignment and indicator calculation can be executed now, if only one of these transport types is available in VISUM.
8.00-11	Save Matrix – Binary data format Also decimal places of the user-defined factor and matrix values are now multiplied correctly.

Version No.	BugFix
8.00-10	Read network – Distance-based tariffs, Zone-based tariffs, TSys-based supplements Error message in case of entries, which occur twice. Options <i>Overwrite/Ignore</i> are considered, if data are read <i>additionally</i> .
8.00-10	Passenger survey Add-on Origin and preceding stop are verified and mapped, also succeeding stop .
8.00-10	Line route – Change traversed stop into served stop Precise time and length data are calculated, if Option <i>Board/Alight</i> is checked for a stop in a specified line route.
8.00-10	Menu File – Database Export/Import Now max. 300 columns are permitted, as errors occurred in case of > 100 columns (> 6 TSys). In case of data overflow the process will be cancelled, an error message will be displayed.
8.00-10	Menu File – Database Export/Import Table LINROUTE: For the columns Arrival/Departure data type DATE had been specified, which caused errors in case of values > 24 hours. As Arr/Dep represent a time period instead of a particular time, the data type has been changed to TEXT. Old database data Arr/Dep of type DATE can still be read from file.
8.00-10	Parameter LearnProcedure For the Heuristic Rule the Lotka-Volterra-Rule parameters (and vice versa) had been displayed on screen in the French VISUM version.
8.00-10	Read Network additionally – Add Turning standard data First existing entries are deleted, then any parameter (also wildcards) is added accordingly.
8.00-10	User-defined attributes Now remaining user-defined attributes are listed completely, after one of the user-defined attributes has been deleted.
8.00-07	Line costing Now the revenues are calculated precisely for sublines (and others) in case of transport system-based distribution of supplements.
8.00-07	VISSIM-Export for Dynamic assignment The relative volume of zones (parking lots in VISSIM) results from the volume of zone connectors calculated for the exported demand segments in VISUM (in recent versions the total volumes of VISUM zone connectors were exported).
8.00-07	VISSIM-Export of nodes, which have not been modelled with the Junction Editor Links starting from a node are sorted according to the coordinate of the first Digi-Point of the link polygon (in recent versions the ToNode coordinates of the link were regarded).
8.00-07	Menu File – Database – Export/Import In recent versions VISUM always tried to use the Jet 3.51 Provider, even if only Jet 4.0 Provider was available.
8.00-06	Menu Extras – Link types Only attribute values \leq max. value can be entered for a link type.
8.00-06	Isochrones / Graphic parameters VISUM disables the 2D isochrones layer, when graphic parameters without 2D isochrones settings are read from elder *.gpa files.
8.00-06	COM interface With parameter OnlyActive=TRUE now current Filter settings (Zones, Lines, Nodes, Links) are considered for the GetMultiAttValues command.

Version No.	BugFix
8.00-06	Junction Editor <ul style="list-style-type: none">• Priority rules: For prioritized vehicles in conflict areas the speed is set = speed in reduced speed zones or, for straight movements, to 50 km/h.• Lanes at nodes: Lane data at nodes are no longer reset to default values, if some of the legs have been modelled using leg templates and some without using leg templates.• VISSIM-Export/static routes: The destination position of a route decision is now calculated correctly: located at 1 cm before the end of the destination link.• VISSIM-Export/TEAPAC: The start position of route decisions for trucks is now calculated correctly.
8.00-05	Calculation of PuT indicators – Timetable-based 1 If <i>Weighting with passengers</i> was checked and only one connection was found for a relation, VISUM assumed Weight = 0, which produced result = 0.