



## E. SATURN Bugs

### E.6 SATURN 10.9 Bugs

Date of last update: 14<sup>th</sup> June 2010

The following “problems” have been identified in **SATURN** Version 10.9.12 as released in November 2009 and/or in later 10.9 releases.

Some of these (potentially) may pre-date 10.9 and would also have been present in 10.8 or even much earlier releases.

- 1) **SATALL** – Errors may occur when running a warm start option within MUC OBA causing the program to abort at the first assignment stage, particularly if there are banned turns under 44444. Corrected in 10.9.13. 01/12/09.
- 2) **SATPIJA** – The program may crash with Fatal Error 34 if the cost data contained on the .UFC file is too large to be copied into internal memory and therefore an external scratch file has to be created on channel 29. It may also require that UFC109 = T. Corrected in 10.9.15. 23/02/10.
- 3) **SATPIJA** – The program may hang when run in conjunction with OBA – but not always. Corrected in 10.9.15. 12/03/10.
- 4) **P1X and/or SATCH** – Cordoning off a network .dat file suitable for input to **SATNET** may run into problems with bus routes which have a single digit name/number written in column 5 (i.e., columns 1 to 4 are blank) in the original network .dat file since the cordon program only checks for non-blanks in columns 1 to 4. The error has probably been around for a long time. Corrected in 10.9.16. 17/03/10.
- 5) **SATALL** – A floating point error may occur if the total number of assignment-simulation loops exceeds 401. Normally MASL is limited to a maximum of 401 but it is possible that if one includes up to NIPS repetitions for signal optimisations that  $MASL * NIPS > 401$  and the error occurs. One solution is to optimise the signals externally, another is to improve the network coding so that you don't need so many loops to converge. The error has probably been around for a long time. Corrected in 10.9.16. 17/03/10.
- 6) **SATLOOK** – The option “-1 - SKIM TIME, DISTANCE AND TOLLS ALTOGETHER” within the Forest Skimming Menu will crash with an error message of non-increasing DA codes with multiple user classes networks if you have explicitly selected a single user class (under menu choice 3). Corrected in 10.9.16 and later versions of 10.9.12. 28/03/10.
- 7) **SATALL** – A crash may occur under elastic assignment, referencing routine PRINT\_TOP\_TEN. This happens if, when the program calculates the ten worst O-D pairs in terms of convergence to the demand model, one of the



origins is the highest numbered zone. So if you have, say, 1,000 zones the chances of the last zone being amongst the top ten is only 1 in 100, hence the error does not always occur. Corrected in 10.9.16. 14/04/10.

- 8) **SKIM\_ALL (SATLOOK)**. The program may terminate with a SATURN Fatal Error to the effect that an output DA code exceeds 99,993 if the number of zones times user classes exceeds (approximately) 9,900. Corrected in 10.9.16. 28/04/10.
- 9) **SATPIJA** – The program gives highly unreliable PIJA data whenever UFC109 = T, It is recommended that any users wishing to use **SATPIJA** with UFC109 = T switch to a very recent (10.9.17+) version or, alternatively, make sure that UFC109 = F in their network files. Corrected in 10.9.17. 14/05/10.
- 10) **SATPIG** – The same problem as above with UFC109 = T also applies to **SATPIG**. Corrected in 10.9.17. 18/05/10.
- 11) **MX** – Stacking matrices where the **total** number of matrix rows, i.e., the number of zones times the number of levels, exceeds the maximum number of zones permissible in your release version (e.g., 2,000 in the largest versions) may result in (some of) the zone names on the output .ufm file being set to zero. The error does not however affect the matrix cells themselves so that the stacked matrices may be used happily enough for assignment purposes. It also only appears to occur in exe's produced under FTN95 (the norm) rather than FTN77. This is a long-standing error. Corrected in 10.9.17. 21/05/10.
- 12) **SATNET** – Inputting pre-load flows from a text file with PLODFF = T along with the various sub-options provided by PLFF3 = T or F should be used with great caution; basically it works with some combinations of data formats and options but not others. Corrected in 10.9.17. 11/06/10.
- 13) **P1X** – Actual vehicle class flows are the calculated the same as demand vehicle flows for annotation. N.B. User class flows are correct. Corrected in 10.9.17. 14/06/10.
- 14) **SATSTAT** – The embedded macros within the Excel Spreadsheet do not function in Excel 2007. Corrected in 10.9.17. 22/06/10.
- 15) **SATSTAT** – The executable is not compatible with long filenames using "." As part of the filename. Corrected in 10.9.17. 22/06/10.

## E.7 Version Control

JOB NUMBER: 5092122		DOCUMENT REF: App E.doc				
Revision	Purpose / Description					
		Originated	Checked	Reviewed	Authorised	Date
1	Re-formatted (Final to DVV)	TF / BG	NS	IW	IW	06/05/06
2	E.4 14) 15) added	DVV				11/05/06
3	Upgrade to V2 Template	DVV	IW	DVV	IW	28/06/06
3.1	Additions to 10.6.17	DVV				10/07/06
3.1i	E.4 20 & 21	DVV				15/07/06
3.1ii	E4 22	DVV				15/08/06
3.2	Web release – Sept 06	DVV	NP	IW	IW	08/09/06
3.3	Web release – Jan 07	DVV	NP	IW	IW	04/01/07
	E.4 37 and 38	DVV				22/02/07
3.4	SATURN v10.7 Release	DVV	NP	IW	IW	12/03/07
	E.5 Additions	DVV				30/03/07
	Further E.5 Additions	DVV				10/04/07
3.5	Web Release for Jul 07	DVV	NP	IW	IW	20/07/07
3.6	SATURN v10.8 Release	DVV	NP	IW	IW	25/03/08
	E.6 started for 10.8 bugs	DVV				26/04/08
3.7	Web Release for Jul 08	DVV	NP	IW	IW	07/07/08
3.8	Web release – Dec 08	DVV	NP	IW	IW	12/12/08
3.8.21	Web release – Feb 09	DVV	NP	IW	IW	16/02/09
3.8.22	Web release – Jun 09	DVV	NP	IW	IW	16/06/09
10.9.10	SATURN v10.9 Release	DVV	DG	IW	IW	04/09/09
10.9.12	SATURN v10.9 Release (Full)	DVV	DG	IW	IW	22/10/09
10.9.17	Web release – Jun 10 Bugs v10.3.9 removed	DVV	NP	IW	IW	22/06/10