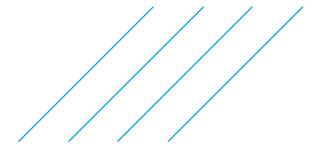




# 2023 User Group Meeting - London

March 2023





# Ian Wright Memorial Prize

Joint sponsorship of the Ian Wright Memorial Prize at ITS Leeds

Best Performance in Transport Modelling - 'Post Grad' Course

Annual Prize





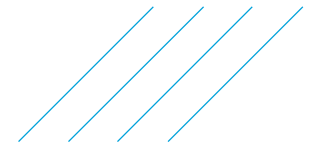
Introduction – David Swain



**ATKINS**

Member of the SNC-Lavalin Group

**FVVB Ltd**



## Programme - Morning Session

10:30 - Welcome and Recent Developments

› *Atkins*

11:00 - SATURN 11.6

› *Dr Dirck Van Vliet*

LoHAM P5.1 Development - TfL's

Experience with SATURN 11.6

› *TfL*

TAG Modelling Unit Updates

› *DfT*

12.30 - Lunch

## - Afternoon Session

13:30 - 2nd Generation Regional Traffic Models

› *National Highways*

**MSHELL – Manipulation Shell**

› *Atkins*

**Integrating LoHAM into MoTiON**

› *TfL*

15.00 - Tea / Coffee

15:20 - User Nuggets

› *Atkins*

15:40 - User Requests

16.00 - Close



# Atkins Core SATURN Team



Technical Lead  
David Swain



Project Manager / Management Lead  
Rajesh Jayapalan



Admin Lead + Plus  
Mara Hunt



Technical / Management  
Michael Wilson



Training / Support  
Luke Davis



Admin  
Gemma Moss



## Since we last met...

- |      |  |                  |
|------|--|------------------|
| 11.5 | Area Charging  | July 2020        |
|      | 11.5.05H First release                                     |                  |
|      | - TAC Assignment introduced                                |                  |
|      | - some basic analysis with TACS                            |                  |
|      | 11.5.05N Second release                                    | October 2021     |
|      | - TAC Analysis extended                                    |                  |
|      | - SLA tree problems / speed / SLA multi-core               |                  |
| 11.6 | 11.6.02W Faster tree building and path handling algorithms | March/April 2023 |
|      | - again - requires revisiting all analyses!                |                  |



# SATURN 11.7

## OUR IDEAS

which include Dirck's, TfL's and David's Ideas

Some tidying - drop OBA and UFOs (replaced by UFFs)

## YOUR IDEAS..

Hope to do a comprehensive survey of what you use etc

Meanwhile, on the back of a postcard...

### ONE THING YOU WOULD LIKE in SATURN 11.7

It can be anonymous, but if you identify yourself we'll of course be able to follow it up.





# SATURN 11.6 Practicalities (i)

## SATURN 11.6

- › Can we speed up tree build?
  - › CELESTE - improvement on Dijkstra (~30% faster for big networks)
  - › LUCIEN - good for "incremental" changes
    - › *used for TAC tree builds...*
    - › *as incremental variants when you can't use a charge area*
- › Can we speed up path analyses?
  - › Goodbye to UFO files...
    - › *structure based on OBA assignments, splits at each node*
    - › *generation is an approximation and can never be "perfect" from FW assignment*
    - › *difficult to programme complex analysis (or even impossible)*
  - › Welcome to UFF path files
    - › *enable trace back of paths as created by FW methodology*
    - › *path file - does not require re-building by repeating tree-builds*
    - › *analysis is all by path tracing so complex analyses are easier / possible*



## SATURN 11.6 Practicalities (ii)

### Assignment

- › Main assignment/simulation convergence
- › Final “converged” assignment
  
- › Convert to path information

### Before 11.6

**SATALL**  
**SATUFC**

(or SAVEIT=T in SATALL)

**SATUFO**

(or SAVUFO=T in SATALL)

### New 11.6

**SATALL** - (SAVEIT=F)  
**SATUFE**

**SATUFF**

### Current 11.6 "quick" implementation

- › Environmental variable **SATURNcfcf**
  - › Affects two assignment batch files
    - › *SATURN.bat* - the current SATURN build network and perform assignment
    - › *SATALL2.bat* - a new batchfile for those that previously called SATNET and SATALL directly
  - › Set SATURNcfcf=...
    - › *(not set)* - run to SATALL
    - › *C* - include SATUFC step after SATALL
    - › *E* - include SATUFE step after SATALL
    - › *F* - include SATUFE and SATUFF steps after SATALL

**ATKINS**

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2023 SATURN User Group Meeting – London 31/03/2023



# SATURN 11.6 Practicalities (iii)

The screenshot displays the SatWin application window. The ribbon menu includes: File, Home, Core - more options, Matrix Operations, Post Assignment, Viewers, Conversion, Advanced, Versions, Experimental, Tools, and Support. The 'Core - more options' ribbon is active, showing icons for SATNET, SATURN2, SATALL2, SATURN2E, SATALL2E, SATUFE, SATURN2F, SATALL2F, SATUFF, SATURN2C, SATALL2C, SATUFC, SATURN2X, SATALL2X, and SATUFO. Below the ribbon, the 'Model Complex' section shows the file path: C:\Users\SWAI2000\AppData\Local\Atkins\SATWIN>LastSession.xmc. The 'Name' field contains 'Default Test Model', the 'Description' field contains 'SATURN Test networks', and the 'Model Working Folder' is 'D:\WORK\PROBLEMS\PF'. The 'SATURN Version' section indicates 'Version: 11.6.02VC BETA' and 'Level: X9 - MULTI-CORE'. A list of actions is visible on the right: Update Batch Files, Update UFS2UFV Files, and Program Folder.

