SATURN

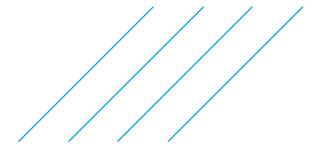## 2023 User Group Meeting - London

March 2023

UNIVERSITY OF LEEDS

ATKINS
Member of the SNC-Lavalin Group

FVVB Ltd

Ian Wright Memorial Prize

Joint sponsorship of the Ian Wright Memorial Prize at ITS Leeds

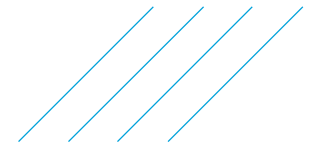Best Performance in Transport Modelling - 'Post Grad' Course

Annual Prize

Introduction – David Swain

UNIVERSITY OF LEEDS

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!

ATKINS
Member of the SNC-Lavalin Group

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*

ATKINS
Member of the SNC-Lavalin Group

SATURN 11.6 Practicalities (ii)

Assignment	Before 11.6	New 11.6
› Main assignment/simulation convergence	**SATALL**	**SATALL** - (SAVEIT=F)
› Final "converged" assignment	**SATUFC**	**SATUFE**
	(or SAVEIT=T in SATALL)	
› Convert to path information	**SATUFO**	**SATUFF**
	(or SAVUFO=T in SATALL)	

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*

SATURN 11.6 Practicalities (iii)