

TRANSIMS Training Course at TRACC

Transportation Research and Analysis Computing Center

Part 13

The Open Source Concept and TRANSIMS Resources on the Web

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Unit **13**



TRACC - TRANSIMS Training Course

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TRANSIMS History

- TRANSIMS was originally developed by Los Alamos National Laboratory for the US Department of Transportation
- As part of a commercialization project, IBM acquired the rights to market TRANSIMS and develop a commercial grade product
- In parallel, the US Department of Transportation developed a new improved version of TRANSIMS for commodity workstations
 - This is the most up to date version (TRANSIMS 4)
 - It is being continuously improved and supported
 - It is available for free (including source code) as an Open Source project under a NASA Open Source License Agreement
 - The open source project is governed by a Community Charter
 - Further development is undertaken collaboratively with funding and support from a number of different sources



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The TRANSIMS Web Site

- The web site supported and maintained by USDOT can be found at:
<http://www.transims-opensource.org/>
- This site provides access to a number of resources:
 - TRANSIMS release packages
 - TRANSIMS documentation
 - TRANSIMS example cases
 - Presentations and Archived Web Seminars
 - The TRANSIMS Open Source Charter and other governance documents
 - Access to the bug tracking system
 - Access to the TRANSIMS forum
 - Access to the TRANSIMS Wiki



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TRANSIMS Software Release Packages

- Downloads / Software / Releases / Current
 - Windows:
 - Executables for 32bit Windows
 - Linux
 - TarBall for direct compilation or package building
 - License

TRANSIMS 4.0
NASA OPEN SOURCE AGREEMENT VERSION 1.3
 (Language for Use in Distribution of TRANSIMS)
 May 2005 Original
 July 2006 Revised

THIS OPEN SOURCE AGREEMENT ("AGREEMENT") DEFINES THE RIGHTS OF USE, REPRODUCTION, DISTRIBUTION, MODIFICATION AND REDISTRIBUTION OF CERTAIN COMPUTER SOFTWARE ORIGINALLY RELEASED BY THE UNITED STATES GOVERNMENT REPRESENTED BY THE GOVERNMENT AGENCY LISTED BELOW ("GOVERNMENT AGENCY"). THE UNITED STATES GOVERNMENT, AS REPRESENTED BY GOVERNMENT AGENCY, IS AN INTENDED THIRD-PARTY BENEFICIARY OF ALL SUBSEQUENT DISTRIBUTIONS OR REDISTRIBUTIONS OF THE SUBJECT SOFTWARE. ANYONE WHO USES, REPRODUCES, DISTRIBUTES, MODIFIES OR REDISTRIBUTES THE SUBJECT SOFTWARE, AS DEFINED HEREIN, OR ANY PART THEREOF, IS, BY THAT ACTION, ACCEPTING IN FULL THE RESPONSIBILITIES AND OBLIGATIONS CONTAINED IN THIS AGREEMENT ...
- Source code is available from SourceForge (see other slides), and special executables (e.g. 64 bit) can be made available by the developers
- "Nightly Built" is being developed to give regular users access to the latest bug fixes, features, and of course the newest bugs ...



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TRANSIMS Charter

- The TRANSIMS open source community serves to preserve and enhance TRANSIMS core assets and intellectual capital; and to facilitate the effective application of TRANSIMS core assets (in isolation or together) through the coordinated, collective action of community members.
- Individuals, not organizations, are TRANSIMS open source community members.

TRANSIMS Open Source Community Charter and By-Laws (Version 1.0)

June 2007

Karl Wunderlich

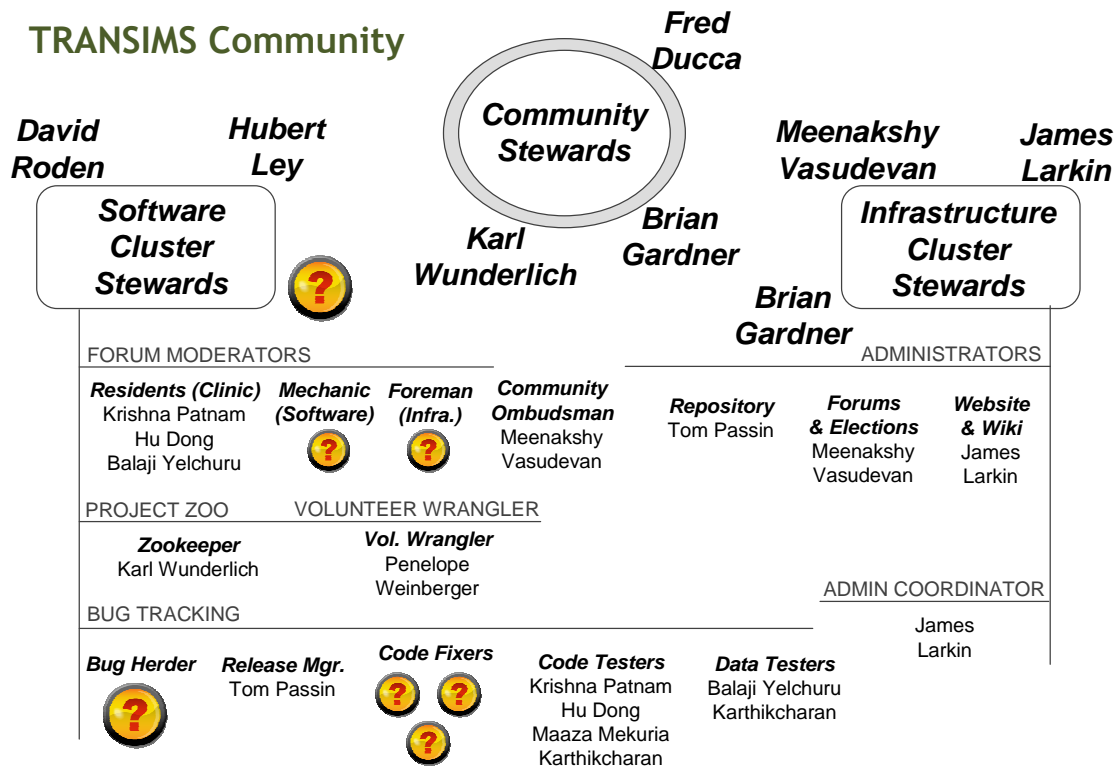
Contract Sponsor: Federal Highway Administration
 Contract No.: NBCH-D-02-0039
 Delivery Order No.: D0200390098
 Department: J300

noblis
For the best of reasons
 Falls Church, Virginia



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TRANSIMS Community



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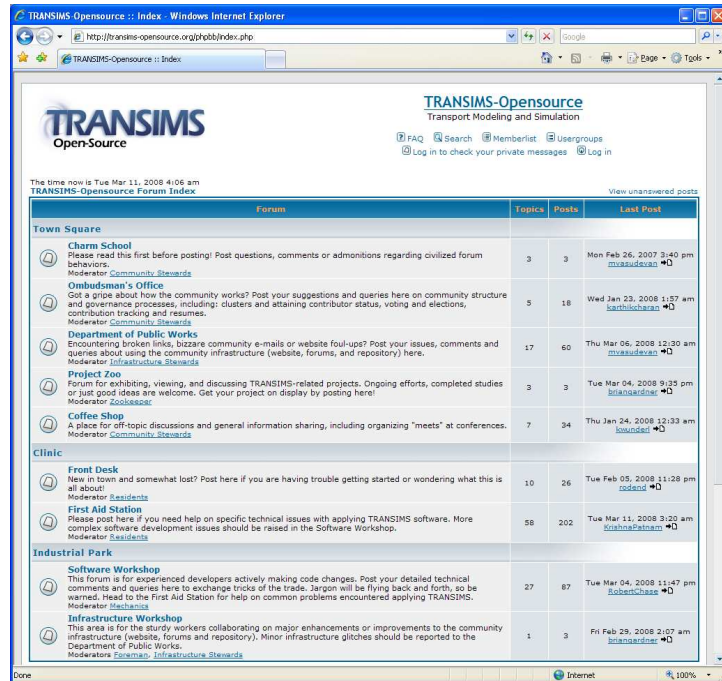
TRANSIMS Documentation

- The documentation for TRANSIMS 4 is not thoroughly up to date and complete
 - TRANSIMS Fundamentals (Version 3)
 - 7 Chapters: Overview, Network Data Files, Population Synthesizer, Activity Generator, Route Planner, Micro Simulator, Feedback Process
 - Collection of How-To Documents (Version 4)
 - 2000 Census Data Prep, Activity Generator, Command Line Development Using VC++ 2005, Highway Network, Microsimulator, Network Edit, PopSyn, Router and Router Feedback, Transit Network, Trip Table
 - TRANSIMS Tool Documentation
 - Quick Reference Sheets (selected tools)
 - Detailed Tool Documentation (selected tools)\
- Each tool (all 63 of them) will list the available options if invoked with the “-h” option

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The TRANSIMS Forum

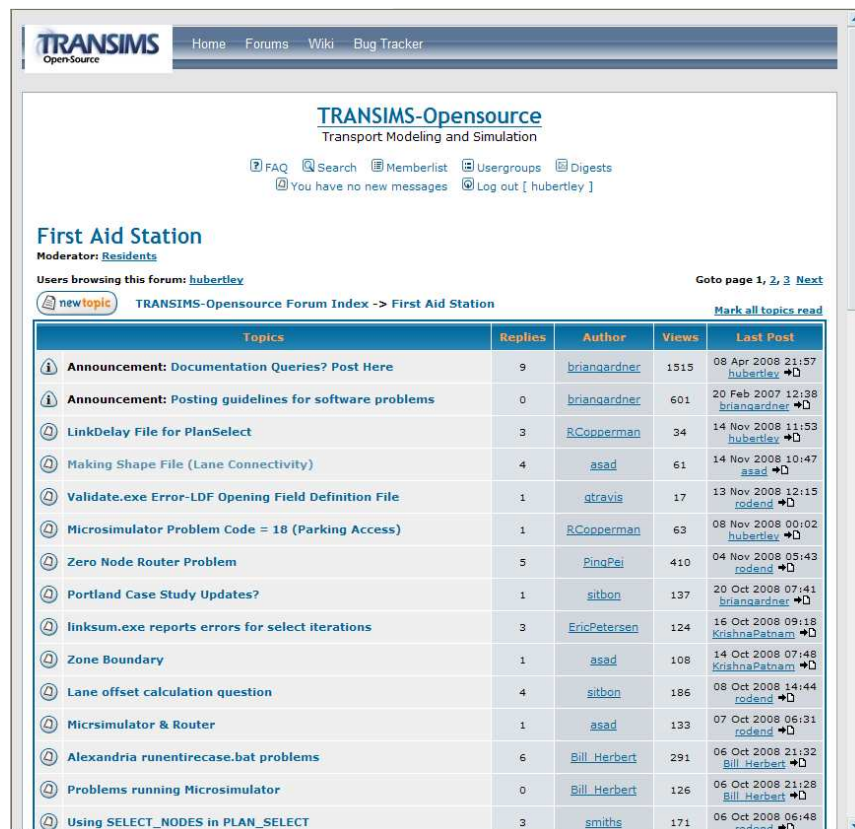
- 350 Users as of December 2009
- 888 articles posted so far
- Provides a self-help facility to newcomers
- Subscription to daily digests by Email
- Posting of attachments is possible
- Provides areas for “first aid” as well as development discussions
- Yes, we monitor the questions and answer them if possible



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TRANSIMS Forum

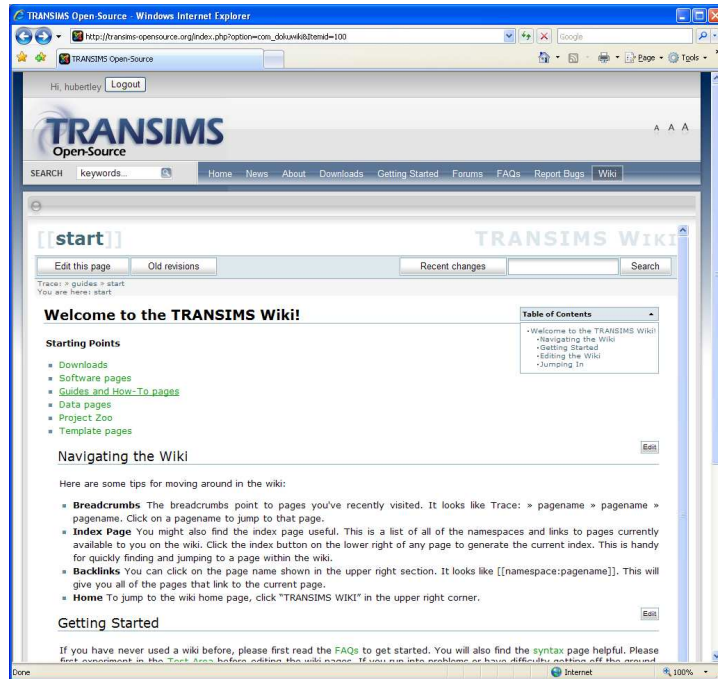
- Entries get a lot of visibility in the community
- The main developers get automatic notifications of all postings, and we tend to respond quickly
- Question and answers will remain visible for future users



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TRANSIMS Wiki

- Start of operation in March 2008
- Is now being used extensively for TRANSIMS documentation
- Vision is to keep documentation current in between releases
- Provides posting of project descriptions so other developers can be aware of TRANSIMS projects in the community
- Allows rapid editing by contributors with peer review



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TRANSIMS Wiki - Sample Page

Lane Use Table

VERSION 3	VERSION 4	Optional Names	Descriptions	Use	Values
NODE	DIR (2)		Node ID or direction code toward which the use restriction is headed	Opt	Integer {1..2,147,483,647}
LINK	LINK		Link ID on which the use restriction is located	Req	Integer {1..1,073,741,823}
LANE	LANES		Lane number with use restriction. Zero implies all lanes	Req	Integer {0..99}
VEHICLE	USE		Vehicle types to which restriction applies	Req	255 characters of use codes separated by slashes (4)
RESTRICT	TYPE		Type of lane restriction. Defaults to Only	Opt	One character O = only this vehicle type may use lane R = lane required to be used by this vehicle type N = lane not allowed to be used by this vehicle type
STARTTIME	START	START_TIME	Start time for the restriction. Defaults to zero.	Opt	16 characters (5)
ENDTIME	END	END_TIME	End time for the restriction. Defaults to Midnight	Opt	16 characters (5)
NOTES	NOTES (1)		A character string for user annotations	Opt	255 characters
	OFFSET		Starting position of the use restriction in meters measured from the beginning of the link	Opt	Floating point (1 decimals)
	LENGTH		The length of the use restriction in meters measured from Offset. Zero implies the whole link	Opt	Floating point (1 decimals)

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TRANSIMS SourceForge SVN Archive

- The TRANSIMS source code is available through **SourceForge** (175,00+ registered open-source projects, 1.8 million subscribed users)
<http://www.sourceforge.net/>
- Access to the source files through SubVersion (SVN) and browsing
 - SVN client software connects securely to the archive
 - Checkout of up-to-date working copies
 - Frequent updates keep source files in sync
 - Branching and merging to support independent development
 - Branching and tagging of releases
 - Core developers decide collaboratively on which features should become part of the “trunk” (the core TRANSIMS software)
 - Provides instant access to the latest version to users who can compile TRANSIMS on their systems
 - Provides for a framework for automatic building and testing
 - Secure archival of all previous versions



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Credits and Acknowledgements

- Screenshots were taken from the TRANSIMS web site operated for the US Department of Transportation
- USDOT provided the funding for the development of these training materials
- USDOT provided the funding for the TRACC computing center and the resources necessary to perform these training session



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