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# ***TRANSIMS Training Course at TRACC***

*Transportation Research and Analysis Computing Center*

## ***Part 13***

### ***The Open Source Concept and TRANSIMS Resources on the Web***

***Dr.-Ing. Hubert Ley***

*Transportation Research and Analysis Computing Center*

*Last Updated: April 21, 2008*

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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

## *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

# 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 Build” is being developed to give regular users access to the latest bug fixes, features, and of course the newest bugs ...

## **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.

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

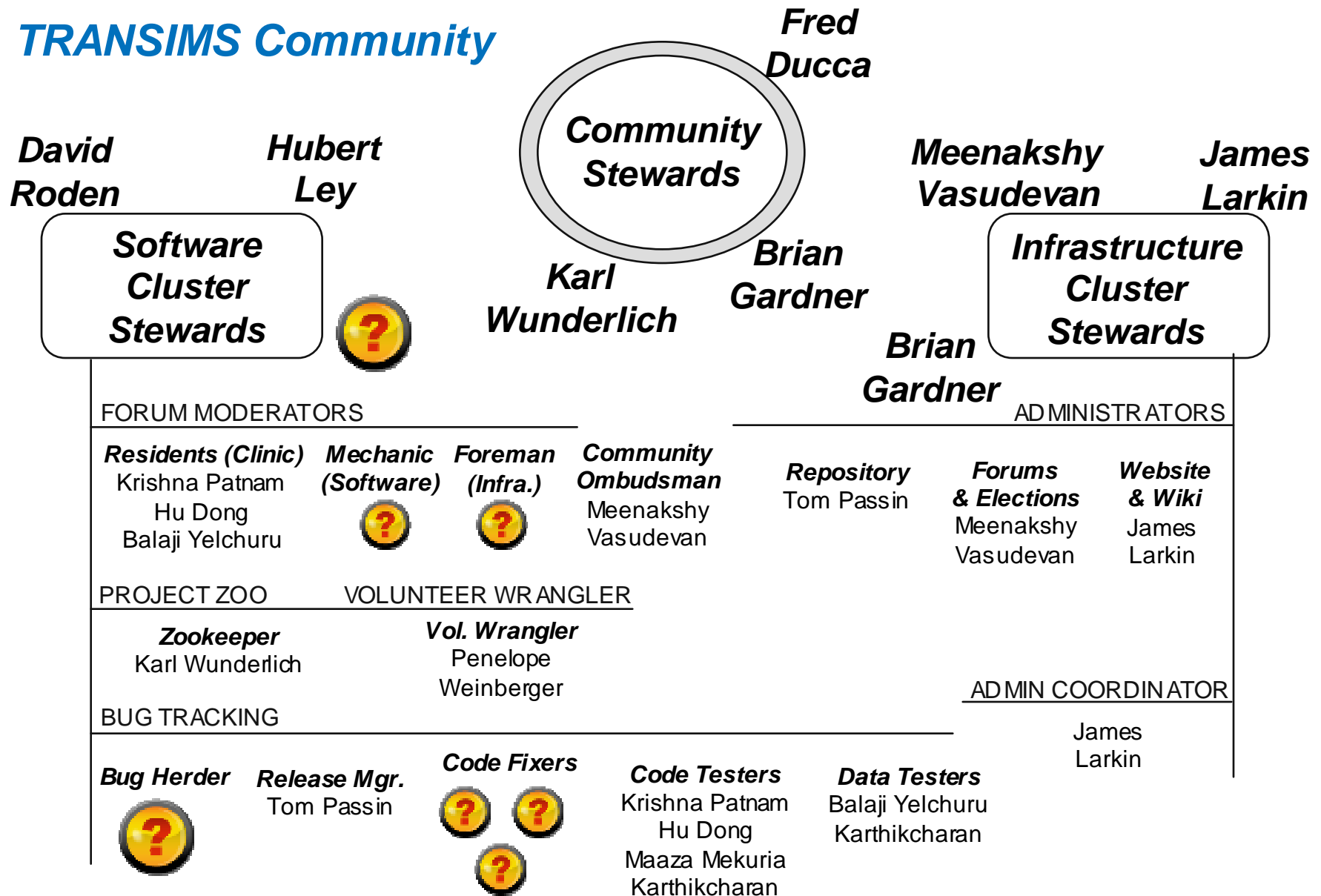
**June 2007**

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

# TRANSIMS Community



## 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 51 of them) will list the available options if invoked with the “-h” option



# The TRANSIMS Forum

- 195 Users as of April 2008 (+22 since March)
- 626 articles posted so far (+75 since March)
- 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

TRANSIMS-OpenSource :: Index - Windows Internet Explorer

http://transims-opensource.org/phpbb/index.php

TRANSIMS-OpenSource :: Index

**TRANSIMS Open-Source**

Transport Modeling and Simulation

FAQ Search Memberlist Usergroups  
Log in to check your private messages Log in

The time now is Tue Mar 11, 2008 4:06 am  
TRANSIMS-OpenSource Forum Index

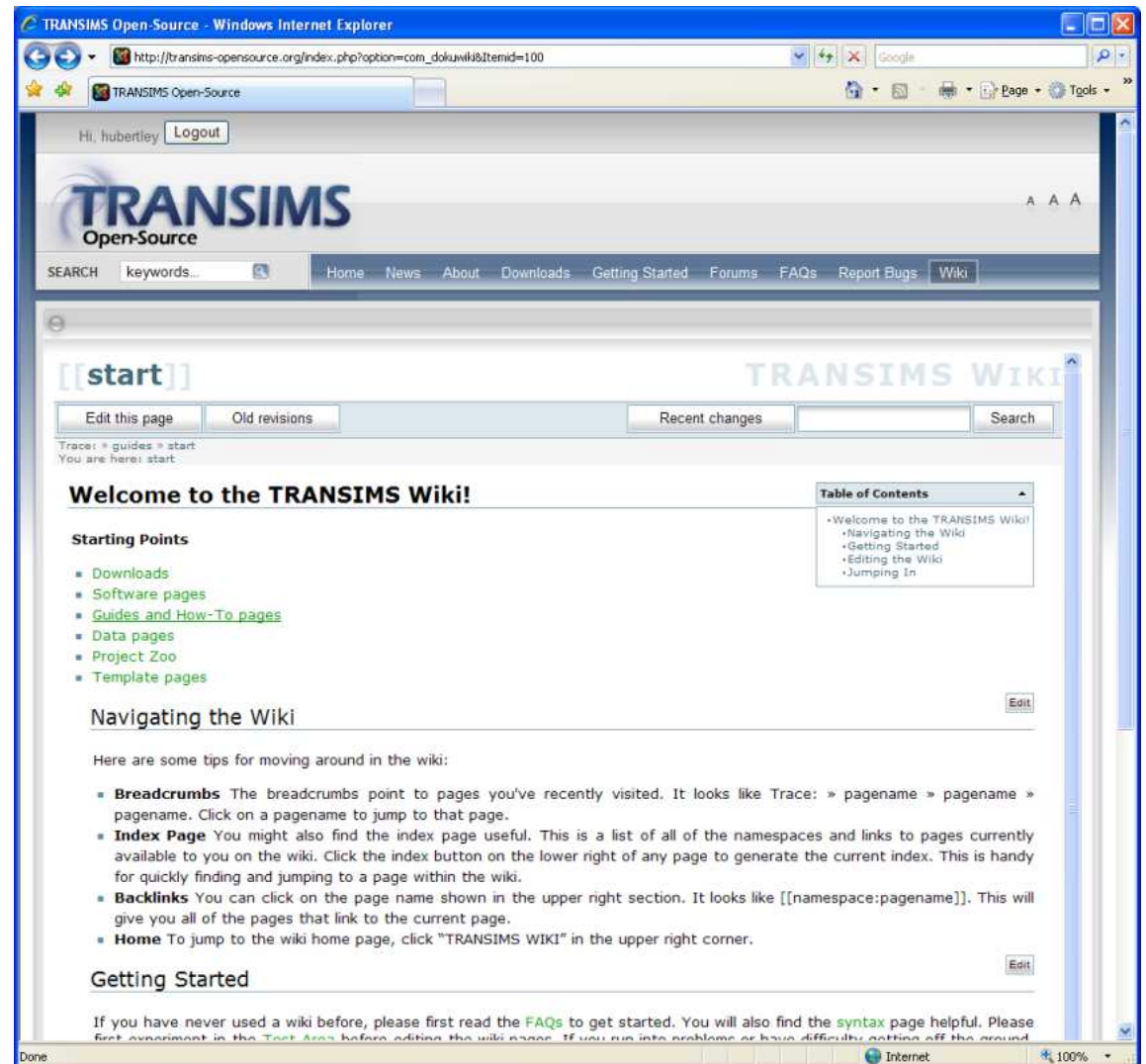
View unanswered posts

Forum	Topics	Posts	Last Post
<b>Town Square</b>			
<b>Charm School</b> Please read this first before posting! Post questions, comments or admonitions regarding civilized forum behaviors. Moderator: <a href="#">Community Stewards</a>	3	3	Mon Feb 26, 2007 3:40 pm <a href="#">mvasudevan</a> →
<b>Ombudsman's Office</b> Get a gripe about how the community works? Post your suggestions and queries here on community structure and governance processes, including: clusters and attaining contributor status, voting and elections, contribution tracking and resumes. Moderator: <a href="#">Community Stewards</a>	5	18	Wed Jan 23, 2008 1:57 am <a href="#">KarthikCheran</a> →
<b>Department of Public Works</b> Encountering broken links, bizzare community e-mails or website foul-ups? Post your issues, comments and queries about using the community infrastructure (website, forums, and repository) here. Moderator: <a href="#">Infrastructure Stewards</a>	17	60	Thu Mar 06, 2008 12:30 am <a href="#">mvasudevan</a> →
<b>Project Zoo</b> Forum for exhibiting, viewing, and discussing TRANSIMS-related projects. Ongoing efforts, completed studies or just good ideas are welcome. Get your project on display by posting here! Moderator: <a href="#">Zookeeper</a>	3	3	Tue Mar 04, 2008 9:35 pm <a href="#">briangardner</a> →
<b>Coffee Shop</b> A place for off-topic discussions and general information sharing, including organizing "meets" at conferences. Moderator: <a href="#">Community Stewards</a>	7	34	Thu Jan 24, 2008 12:33 am <a href="#">kwunder</a> →
<b>Clinic</b>			
<b>Front Desk</b> New in town and somewhat lost? Post here if you are having trouble getting started or wondering what this is all about! Moderator: <a href="#">Residents</a>	10	26	Tue Feb 05, 2008 11:28 pm <a href="#">nodens</a> →
<b>First Aid Station</b> Please post here if you need help on specific technical issues with applying TRANSIMS software. More complex software development issues should be raised in the Software Workshop. Moderator: <a href="#">Residents</a>	58	202	Tue Mar 11, 2008 3:20 am <a href="#">KrishnaPatnam</a> →
<b>Industrial Park</b>			
<b>Software Workshop</b> This forum is for experienced developers actively making code changes. Post your detailed technical comments and queries here to exchange tricks of the trade. Jargon will be flying back and forth, so be warned. Head to the First Aid Station for help on common problems encountered applying TRANSIMS. Moderator: <a href="#">Mechanics</a>	27	87	Tue Mar 04, 2008 11:47 pm <a href="#">RobertChase</a> →
<b>Infrastructure Workshop</b> This area is for the sturdy workers collaborating on major enhancements or improvements to the community infrastructure (website, forums and repository). Minor infrastructure glitches should be reported to the Department of Public Works. Moderators: <a href="#">Foreman</a> , <a href="#">Infrastructure Stewards</a>	1	3	Fri Feb 29, 2008 2:07 am <a href="#">briangardner</a> →

Done Internet 100%

# 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



# 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)

## ***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

## *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