

Rubicon Newsletter

December 2006

Happy holidays! May your 2007 be exciting and fulfilling.

Rubicon Toolbox: Update

The most recent version of Rubicon Toolbox is Version 2.5.8, and is available on our website. Several modifications and changes have been made to the software since the last newsletter, and these are briefly discussed overleaf. Major changes include revision of the Standard Axle Tool, the Stress-strain Calculator Tool, the lane distress strip in the Data Viewer and the updating of the defaults database. A detailed list of changes made to each version is maintained on our website.

Email Notification of Availability of New Upgrades

We are sending out an email to all our Rubicon Toolbox users to notify you when a new upgrade is available on our website. In the email the changes or modifications are briefly outlined. This email is also used to notify users of any upcoming training courses. If you are a Rubicon Toolbox user and are not yet receiving this email, please contact us.

Obtaining New Tools Included in your Maintenance Contract

When new tools are included in the software, such as the Stress and Strain Calculator Tool, they typically require a licence before you can access the full functionality of the tools. However, under your maintenance contract this licence may well be available to you *at no cost*. To find out which new features and tools are available to you, contact the MAS office.

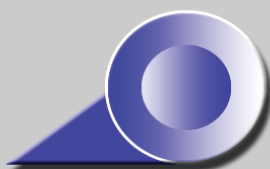
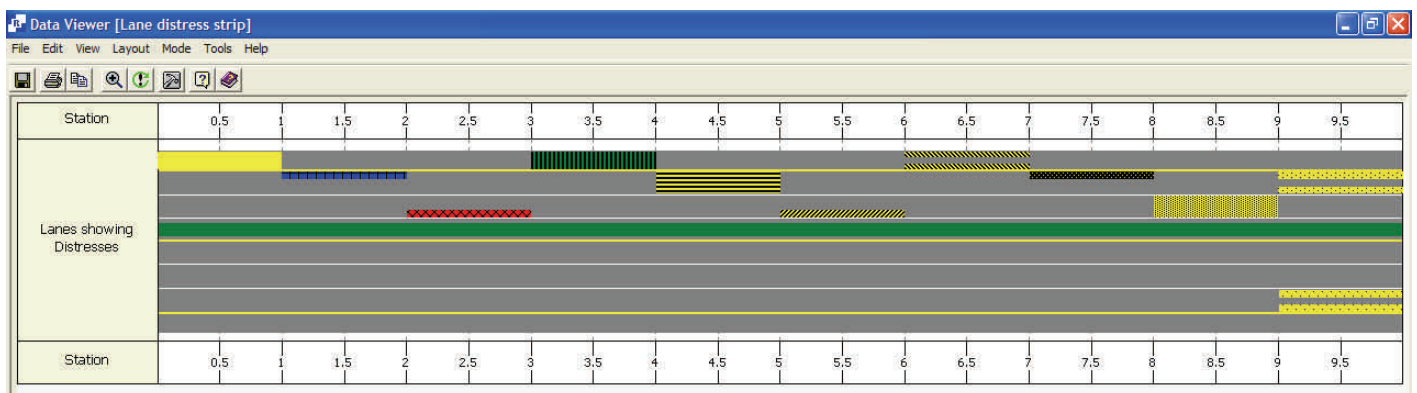
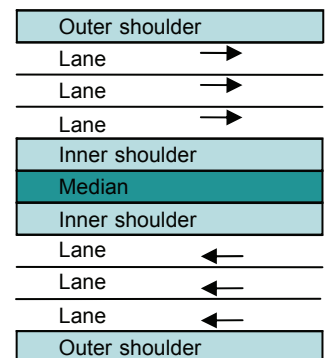
Example Rehabilitation Report and Marketing Video

An example rehabilitation report has been compiled to demonstrate the features of Rubicon Toolbox, and will be useful to existing and potential Rubicon Toolbox users. A short video showing key aspects of the software, which will be useful to potential users, has also been made. If you are interested in either the report or video, please contact us.

Rubicon Toolbox Feature: Lane Distress Strip

The Lane Distress Strip is the newest addition to the Data Viewer Tool. This strip allows a user to plot a schematic picture of the lane layout and shows where pavement distresses are located. The lane layout can include up to three lanes in each direction with a shoulder on the outer and inner lanes as well as a median between the lanes. Distresses are user defined and can consist of 10 different distress types (indicated by different hatchings) shown in four possible colors (yellow, blue, red or green). The distresses can be shown in the top or the bottom wheel path of the chosen lane, in both wheel paths or over the entire lane.

The data for the lane distress strip should be contained in an Access Database. An Excel template is available on our website that will help the user to prepare the data in the desired format before importing it into the database. As with any other strip map, other data strip types can be added to the same layout to show the data corresponding to the distresses on the Lane Distress Strip.



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Brief Summary of New Features and Modifications

Standard Axle Tool (Version 2): Version 2 of the Standard Axle Tool was developed to simplify pavement analyses. The input and definition of pavement structures are now more flexible and the analyses runs faster.

Stress-Strain Calculator Tool: This tool facilitates the calculation of stresses and strains at user defined locations in a pavement structure. A user can define specific evaluation locations by means of a Microsoft Excel template, or the positions are selected with Rubicon Toolbox based on 2 x-y locations and 5 depth locations per layer. The output is in a table and can be exported to Excel.

Updating the Defaults Database and Current View: When running a new upgrade, you will now be prompted to check if any new criteria, loads, materials or category sets have been included in the MAS defaults database. If there are new entries, you can import them into your defaults database with a single click. When new entries are included in the defaults database, they are now automatically added to the current view.

Grading Evaluation Tool: In this tool you can now select an option to shade the areas outside the grading envelope, which are labelled "too coarse" or "too fine". A summary of the grading and some grading parameters, such as grading modulus, are automatically calculated and can be exported to Microsoft Excel.

DCP Tool: On the layer strength diagram, users can now choose between plotting the CBR with depth, or as a single value per layer.

Multiple Trial Pit Report Tool: A summary view can be generated which shows all the trial pits in a scaled section format to which comments and background horizons can be added.

Changes to the Data Viewer

Lane distress strip: This is discussed overleaf.

Subsections: A subsection feature has been added where a subsection can be defined and shown on the strip map layout. A summary of the statistics is available for each subsection.

Group titles: Strip titles can be grouped together under a group title. The group title is shown on the left of the strip and the text can be aligned vertically or horizontally.

Y-axis: The y-axis can be removed from the strip map for cases where the actual values are not of interest.

Data interpretation: An option has been added to shade the background of a strip according to the category sets rather than colouring the bar or scatter mark.

Visual data: It is now possible to plot visual data using a bar strip with the height of the bar indicating the degree and the colour the extent. To do this it is necessary to have both the degree and extent data included in the Access database.

Labels: Formatting of labels has been improved and some filtering can be performed. A user now also has greater control over placement of labels.

Strip height: The minimum strip height is now 2 mm.

Tool link strips: Links to the Multiple Trial Pit Report Tool can now be made in a strip.

Training

- Our pavement design course has been accredited for 2 Continued Professional Development (CPD) points.
- No dates have been set yet for courses to be held in 2007. Should you have any specific requirements for courses please contact the MAS office.
- We are also available to hold in-house customized workshops at your offices. We have found an intensive one-day workshop works well. Again, contact the MAS office if you are interested.

Tutorials

11 Tutorials on specific Rubicon Toolbox Tools are available for downloading on our website:

- Adding or Editing Failure Criteria for Pavement Layers
- Adding or Editing Materials for Pavement Layers
- Adding or Editing Category Sets
- Defining a Pavement Structure
- LET: Standard Axle Analysis
- Deflection Bowl Analysis
- Automated Backcalculation using the Backcalculation Tool
- DCP Tutorial Version 2
- Photo Logger Tool
- Data Viewer, Part 1
- Introduction to Databases for Use with the Data Viewer Tool

MAS News

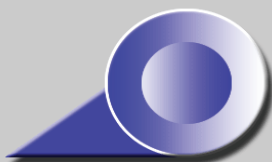
- Arno Hefer joined the MAS team in September 2007.
- We are gathering data on pavements around the country for a pavement performance information system for SANRAL.
- We are still working on a project for SABITA and Gautrans to gather field performance data on ETB and foamed bitumen roads and to use these data to develop a material classification system and structural design method.
- On an ongoing basis we are involved in network performance data management and deterioration modelling for TRAC.
- The MAS office has moved into Cullinan. Our contact details remain the same, except for the fax number.



Back: Arno Hefer, Fritz Jooste
Front: Fenella Long, Sanet Jooste, Marlou Bredenkamp

Comments and Suggestions

We welcome your ideas for improving Rubicon Toolbox. Please share them with us, and notify us if you find any bugs or errors. You are our best source of ideas for new features in the software.



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