

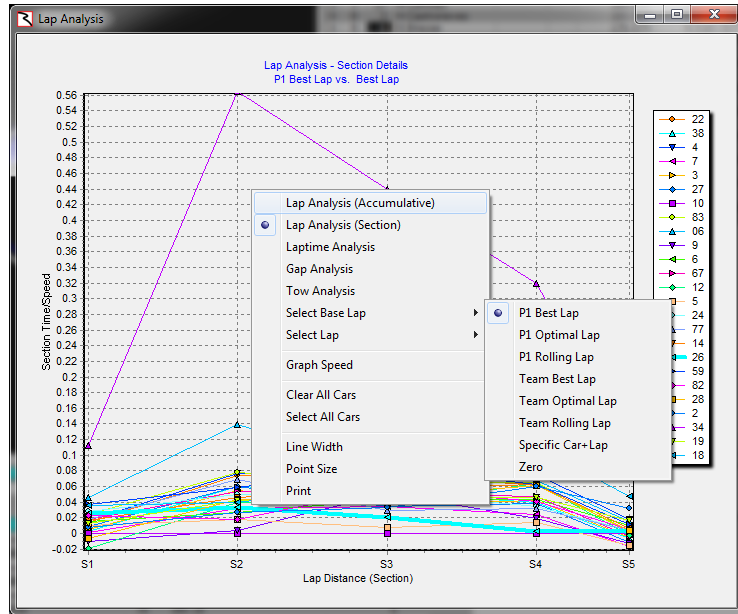
RaceTools v1.66 is a maintenance and enhancement release. It is not a critical release. You may introduce it at your leisure.

New Features:

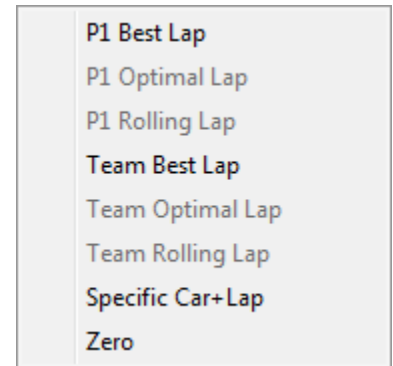
The LapTime Graph (Shift+F3) has been enhanced with three more types of analysis, the Lap Analysis (Accumulative), Lap Analysis (Section) and Tow Analysis graphs. These are accessed via the popup menu in the LapTime Graph popup window.

Lap Analysis (Accumulative):

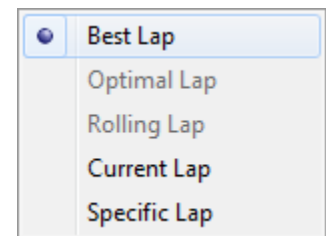
The Accumulative graph compares the difference from the start of the lap to each timeline for the selected competitor laps and the base lap. Note that these are accumulative differences at each timeline for the time mode (default) and average speed so far in the lap for the Graph Speed mode.



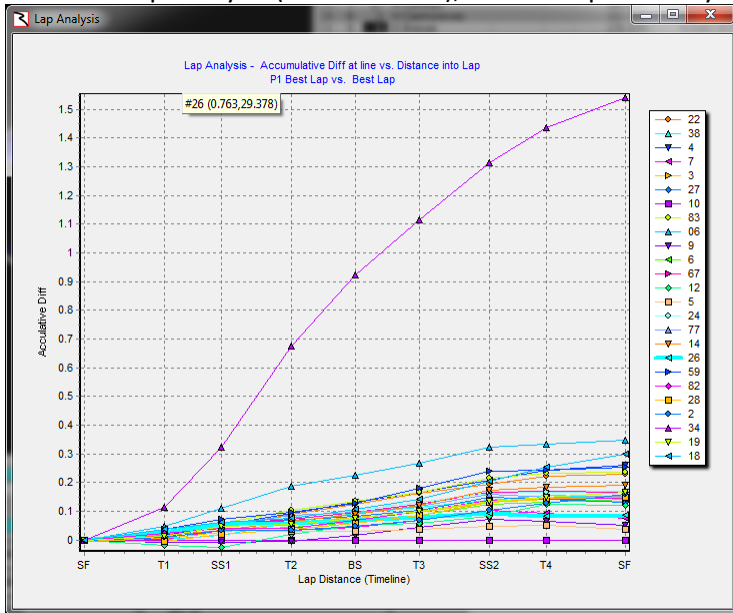
1. Select base lap from the following:
 - P1 Best Lap** – compare selected laps against the P1 Best Lap and display the time or average speed difference.
 - Team Best Lap** – compare the selected laps against the team’s Best Lap.
 - Specific Car and Lap** – compare the selected laps against a specific Lap for a specific car. You will be prompted for a car number and lap number to use as the Base Lap.
 - ‘Zero’** – render the accumulative elapsed time or average speed from the start of the lap at each timeline.



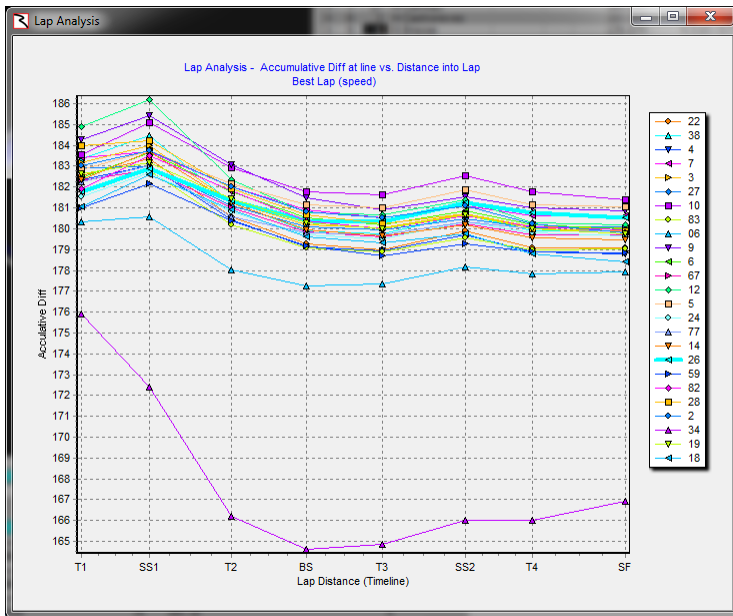
2. Select the competitor or competitors to compare against the base lap using the Session Results table’s ‘CK’ column.
3. Select the lap to compare from the following:
 - Best Lap** – compare the Base Lap and the selected competitor’s Best Lap
 - Current Lap** – compare the Base Lap and the selected competitor’s Current Lap
 - Specific Lap** – compare the Base Lap and the selected competitor’s specified Lap. You will be prompted for a lap number to use.



Iowa P1 – Lap Analysis (Accumulative), P1 Best Lap vs. everyone else's Best Lap



Iowa P1 – Lap Analysis (Accumulative), P1 Best Lap vs. everyone else's Best Lap, with Graph Speed selected.



Lap Analysis (Section):

The Lap Analysis (Section) graph compares the section times for the selected competitor's selected lap against the selected Base Lap.

1. Select base lap from the following:

P1 Best Lap – compare selected laps against the P1 Best Lap and display the time or speed difference for each section.

P1 Optimal Lap – compare the selected laps against the P1 Optimal Lap and display the time or speed difference for each section.

P1 Rolling Lap – compare the selected laps against the P1 Best Rolling Lap and display the time or speed difference for each section.

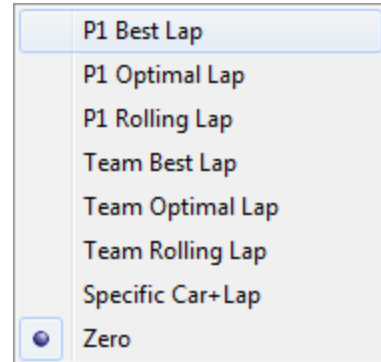
Team Best Lap – compare the selected laps against the team's Best Lap.

Team Optimal Lap – compare the selected laps against the team's Optimal Lap.

Team Rolling Lap – compare the selected laps against the team's Best Rolling Lap.

Specific Car and Lap – compare the selected laps against a specific Lap for a specific car. You will be prompted for a car number and lap number to use as the Base Lap.

'Zero' – render the selected laps' section time or average speed for each section.



2. Select the competitor or competitors to compare against the base lap using the Session Results table's 'CK' column.

3. Select the lap to compare from the following:

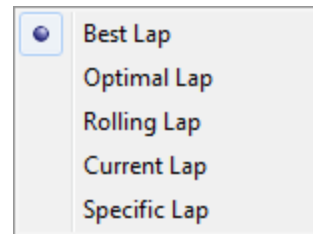
Best Lap – compare the Base Lap and the selected competitor's Best Lap

Optimal Lap – compare the Base Lap and the selected competitor's Optimal Lap

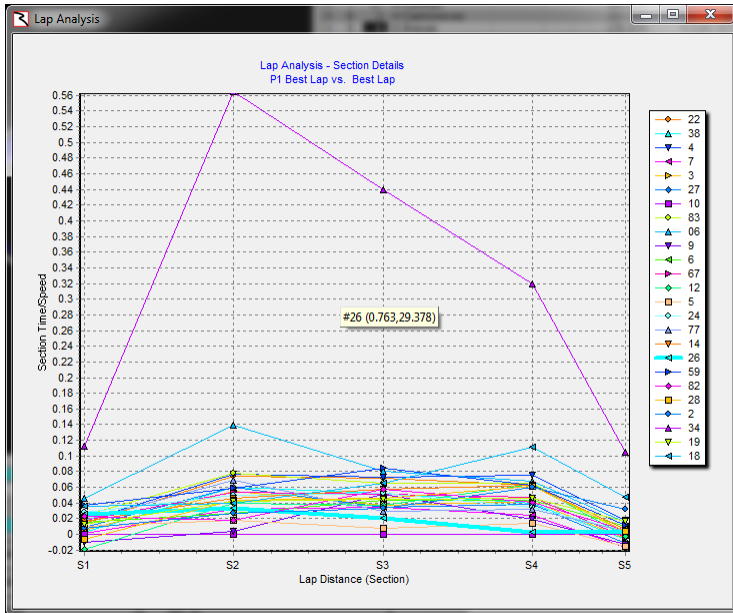
Rolling Lap – compare the Base Lap and the selected competitor's Best Rolling Lap

Current Lap – compare the Base Lap and the selected competitor's Current Lap

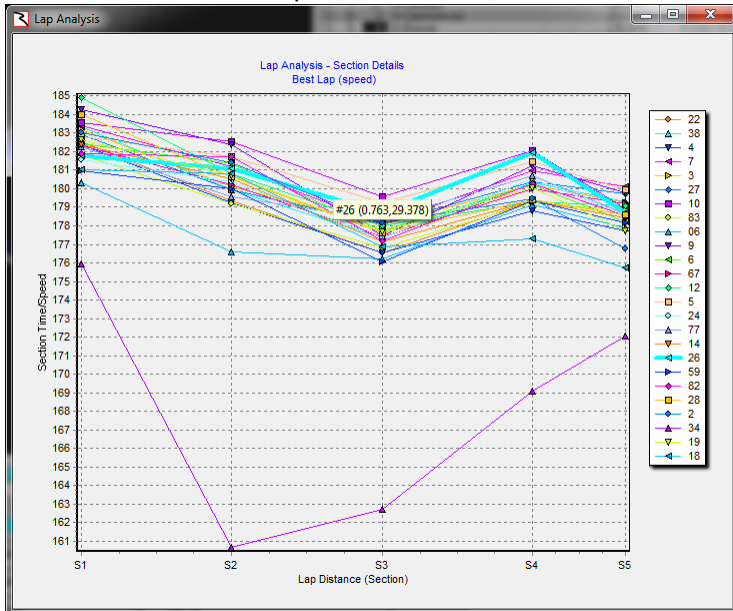
Specific Lap – compare the Base Lap and the selected competitor's specified Lap. You will be prompted for a lap number to use.



Iowa P1 – Lap Analysis (Section Details), P1 Best Lap vs. everyone else’s Best Lap. Note that the deltas are for each section and not accumulative.

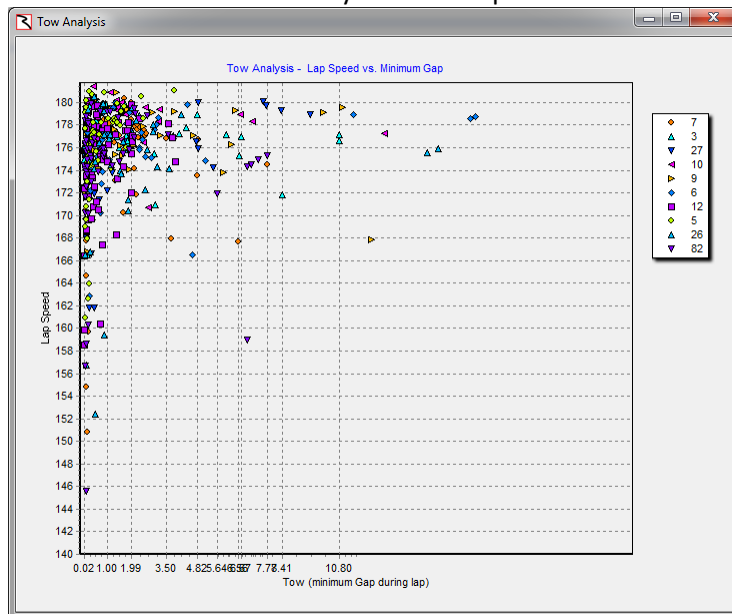


Iowa P1 – Lap Analysis (Section Details), P1 Best Lap vs. everyone else’s Best Lap, with Graph Speed selected. Note that the speeds are for each section and not the average to that point in the lap.



Tow Analysis

The Tow Analysis graph compares Lap Times or Lap Speeds against the minimum Gap for each lap and can be used graphically show the effect of Tow on lap times. The data points to the right are those that have little or no tow and may be more representative of actual lap speeds expected during qualifying.



Diff and Gap as Speed or Time?

I thought about different ways to give people the choice of 'Diff' and 'Gap' as either time or speed. At first I was going to use the 'ShowAsSpeed' toggle which is used for oval qualifying fields 'QTotal', 'QWU', 'QL1', 'QL2', and more if necessary to determine if they should be displayed as time or speed, however, in the session results table, you might display both 'QSpeed' and 'QLTime'. I didn't want to add 'ShowDiffAsSpeed' and/or 'ShowGapAsSpeed' to the already large list of menu options, so I've added 'Diff SPD' and 'Gap SPD' fields to the Session Results and Scoreboard tables. You can now choose to display the Diff and Gap as time, speed or both (by using two columns).

Change Log

v1.66

2011 07 03 - add Lap Section Analysis, graphs section times or section time deltas for a specific lap (P1 best lap, P1 optimal lap, P1 best rolling lap, Team best/optimal/rolling lap, specified car+lap)

- add GraphAsSpeed to Lap Analysis (Section and Accumulative)

2011 07 02 - add Tow Analysis to LapTime Graph (SF3)

- reset axis when toggling LapTime Graph between speed/time

- add Lap Analysis to LapTime Graph (SF3)

- reset axis when toggling LapTime Graph radio menu items (change type or parameters, need to reset axis)

2011 07 01 - add Section Rank by % option to Options menu, ranks section time lost rank by % loss per section vs. section time. Setting applies to both the live Sections as well as analysis maps

v1.65

2011 06 30 - reapply TowFilter, recalculate NTScoreboard after changing Tow Filter Threshold, fixes Best Lap with Tow Filter report when Tow Filter Threshold modified

2011 06 30 - reset NonTow values before sorting in ApplyTowFilter

- always SortNTScoreboard after applying Tow Filter

2011 06 27 - combine Save Track and Sort Track into Save Track in Track Editor

2011 06 26 - Highlight Gap if BlendFreeze empty (non-freeze senario), fixes highlight of close Gaps with BlendFreeze enabled.

2011 06 25 - add HideAllCars to main program options menu to temporarily hide all cars (set status='(ActiveString)' or '(Pit)'). Cars will reappear at the next timeline crossing

2011 05 24 - add 'Diff SPD' and 'Gap SPD' to session results and scoreboard tables to display the Diff and Gap in speed instead of time. The SPD fields are not valid for race sessions.

2011 06 21 - display competitors with QRank=0 but Rank>0 with SortByQRank to display upcoming qualifiers

2011 06 18 - fix sort track to include last track line (previously stopped looking one short) when matching pit and track timelines

2011 06 16 - Scoreboard - don't display LapsToGo if >90000 (Orbits defaults to 99999 if not defined).

- remove QRank index from non-IRL versions

- add configuration to load alternate Logo1 and Logo2 bitmaps

2011 06 15 - TimeCard - include all segments in table, only display selected segments. Add menus to select section types; Track, Track Traps, Pit, Logical

2011 06 15 - copytoclipboard - only filter out special characters if column is not 'NAME', 'DRIVER', 'DIFF', 'GAP', 'STATUS', 'QSTATUS' and either starts or ends in a numeric (don't replace pure strings)

v1.64

2011 06 13 - revert to using Tlnifile instead of TMemInifile to work around concurrency issues when saving settings, memory versions may contain stale content. Fixes saving of window positions when exiting or saving templates.

- react to first time SessionCode is set, trigger new session

2011 06 12 - set crossingstatus='P' if competitor was 'In Pit' (crossed 'PIC') when crossing 'SS2'. (IndyCar only)

2011 06 12 - implement AutoDisplayMode templates, uses SessionCode (not the same as preamble) which is <series><sessiontype><sessionnumber>.fields

- start with full sessioncode, decrease by one character until filename found, or use default layout if no template found.

- reset colcount when applying settings to other scoreboards

- reset row heights when applying settings to other scoreboards

2011 06 11 - don't use SS2 to determine track/pit status since it may cross the deceleration lane after the PIC line

- fix QTotal+ to support time or speed based on status of ShowAsSpeed in Session Results table

2011 06 10 - treat PTn and PSSn as on track when calculating running order, only move competitors to the bottom of the list when they enter (PI) the pits and blend them into the order at BlendOut (normally PO).

2011 06 10 - don't put car back on track if car was in pit lane (PIC) when crossing SS2

v1.63

2011 06 06 - add ApplyToAll option to apply current scoreboard settings (fonts, menus) to all other Scoreboards

- add SessionInfo font option for Scoreboards

- don't display TimeToGo if 0

- don't display Green Time/Yellow Time during Oval Qualifying (not relevant) (Scoreboard)

- Replace 'QLaps' with 'Laps', 'QRank' with 'P', and 'QTotal' with 'Avg SPD' (Scoreboard)

2011 06 04 - shade Running Order rows to help differentiate even/odd positions.

2011 06 03 - prompt for new software key if expired, fixed bug that required editing the configuration file to update the software key

2011 05 28 - don't try to ping before reconnecting to server, firewalls may disable ping replies, make reconnect more reliable

2011 05 25 - fix display of last competitor when SortByQRank enabled, clear P+1, not P...

- change FindCompetitor to find the last entry with the matching RegNr/TransponderID (ResultsID) to get the last attempt during Indy 500 qualifying (QualID not available in MLP)

- don't display projected time if ProjTime=3600000*SessionInfo.Factor

- fix ProjRank for Indy500 (rank only against those who have 'Qualified')

- display all Indy 500 Qualifying Attempts

- add WindowManager to control forms across multiple screens.

v1.62 (deprecated)

2011 05 20 - re-enable Indy 500 Pole Day code

```
if (_Status<>'65')//not Qualified - Pole Day
```

```
AND ((Competitors[ID].QPeriod>StrToInt(_QPeriod))//record from previous session, old data
```

```
OR ((Competitors[ID].QPeriod=StrToInt(_QPeriod)) AND
```

```
(Competitors[ID].QAttempt>StrToInt(_QAttempt))//earlier attempt in session
```

```
OR ((_QPeriod='1') AND (_Status='6A'))//2010 Indy Qualifying hack, 'Pole Day' ignore Failed and
```

```
Withdrawn results
```

```
OR ((_QPeriod='1') AND (_Status='6E'))
```

```
OR ((_QPeriod='2') AND (_Status='6E'))
```

```
OR ((_QPeriod='1') AND (_Status='6F'))
```

```
then
```

```
exit;//don't process old records
```