PTraffic 1.6

Manual

Contents

1. General

1.1. Introduction

PTraffic is designed to edit timetables.

Data will be stored in 'Portable Table Format' (PTF) which can be used in conjunction with JavaScript and SQL languages like PublicSQL (see http://www.en.publicsql.org/).
You can provide Internet-Applications using the timetables as a basis. A selection of PublicSQL applications is already included in PTraffic.

PTraffic-Pro adds the ability to generate line maps. A simulation will be created based on these line maps.

1.2. Symbols and formatting used

1.2.1. Symbols

💡 Tip / Professional tip

🔁 Change in the manual since last version.

1.2.2. Formatting

Source texts are written in the Monotype font 'Courier New'. Example:

```
<meta name="description"
content="Termine">
```

1.3. Prerequisites

PTraffic is designed to run on Microsoft Windows® XP, Vista, Windows 7 and Windows 8.

1.4. Installation

For easy installation on your local computer a setup executable for Microsoft Windows® is supplied with the application.

1.5. Start

Double click on the PTraffic Symbol at your desktop or choose the program via the start menu.

A sample project called „SampleTown" is included and will be installed in addition to PTraffic. The sample project can be used to make yourself familiar with the functions of PTraffic. Use the Menu „File → Load Sample Project" to load the project „SampleTown".

The sample project will be installed to the folder for program data. On Windows 8 this is the folder called Windows/ProgramData.
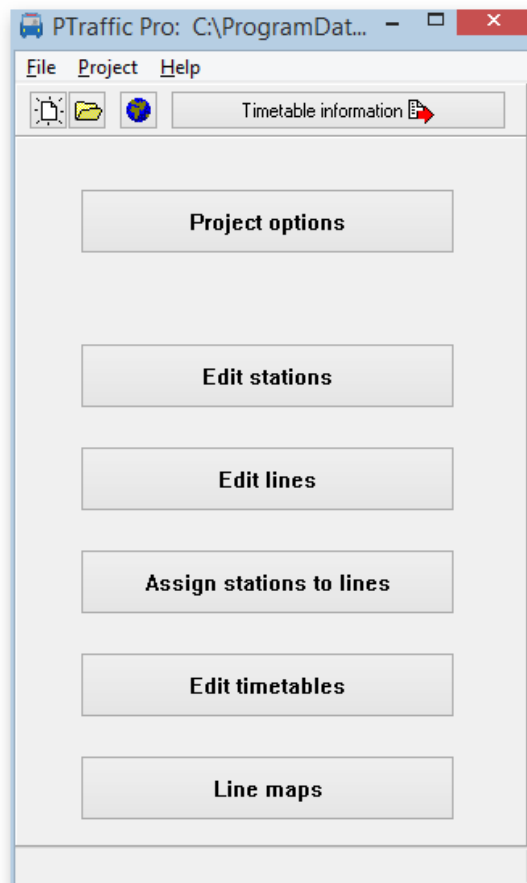
1.6. Software-Update
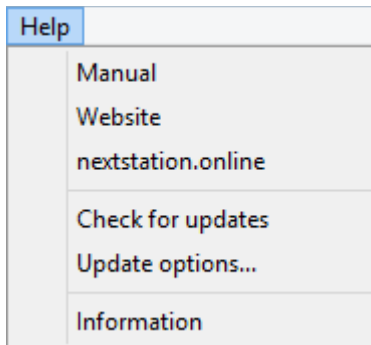
To carry out updates for the program please choose if you want to check for updates at each program start, daily, weekly or manual if needed.

1.6.1. Update options

In menu Help → Update options you can specify if and in interval you like to look for updates

- **Automatically check for updates**
  If you enable the automatic update search, the program will periodically check the Internet for updates. The search can be performed at the following time:

    - **At program start**
    Look for updates at every program start of the program.

    - **Daily**
    Look for updates at the first program start of the day.

    - **Weekly**
    Look for updates at the first program start of a week.

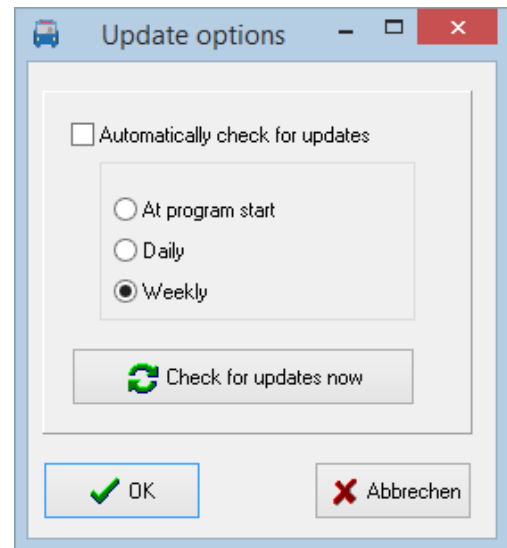- **Search for updates now**
  Click this button to for an immediate search for available updates at the Internet. If updates are available, they will be downloaded and installed. For details on this process see next chapter.

1.6.2. Search for updates

In addition to the already described automated update functions you can select to search for updates by choosing Help → Search for updates

If you selected to search for updates the update wizard will look for updates and guide you through the update process to install the updates.

In the window with the associated files, all the files displayed there are required and you should not deactivate them.

After download is complete the program will be stopped, and the new version will be installed.

2. Projects

At start-up of PTraffic you have the option to open an already saved project or create a new one.

2.1. Create a new project

When you create a new project, it is recommended that you first create a new directory for the project.

Choose ‚File → New' or click on the new project icon (the one with the white paper) to create a new project. A pop-up will tell you that the project must be saved before editing. Click OK and choose a folder and name in the save dialog and save the project.

Please take a separate (new) directory for each project. Otherwise several projects will use the same files and inconsistencies of the data will occur. Please do not use the program directory (e.g. "C://Program Files (x86)/PTraffic Pro ") for your own projects, otherwise files may be overwritten there. If you have already used this directory you should backup your project data and reinstall the program.

2.2. Open an existing project

Choose 'File → open' or click on the button with the folder-symbol. Choose your project in the open dialog and press open.

2.2.1. ⟳ Conversion to Unicode character set

In contrast to the previous versions, which work with the ANSI character set, the Unicode character set is used from version [1.6 / 1.3]. Projects from the previous version(s) are automatically adapted.
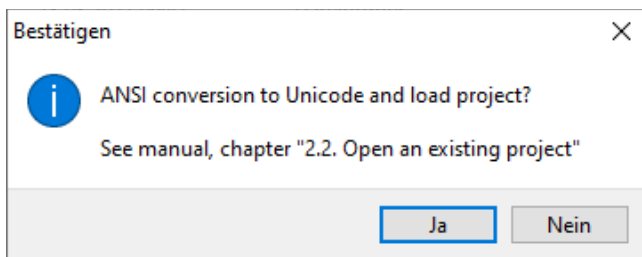
Before loading the project, you will be asked whether you want to convert to Unicode and load the project. If you select "No", the project will not be loaded.
If you agree to the conversion to Unicode, the project files are converted to Unicode files and are only compatible with the previous program versions to a limited extent. When loading

Unicode projects with previous program versions, characters are sometimes displayed incorrectly (e.g. ä,Ä,ö,Ö,ü,Ü,ß).

2.3. Project options

In project options you define important settings for your timetable project.

2.3.1. Lines

Allows you to change the default color for lines.

The line color is not used but has been implemented for usage of 3rd party applications.
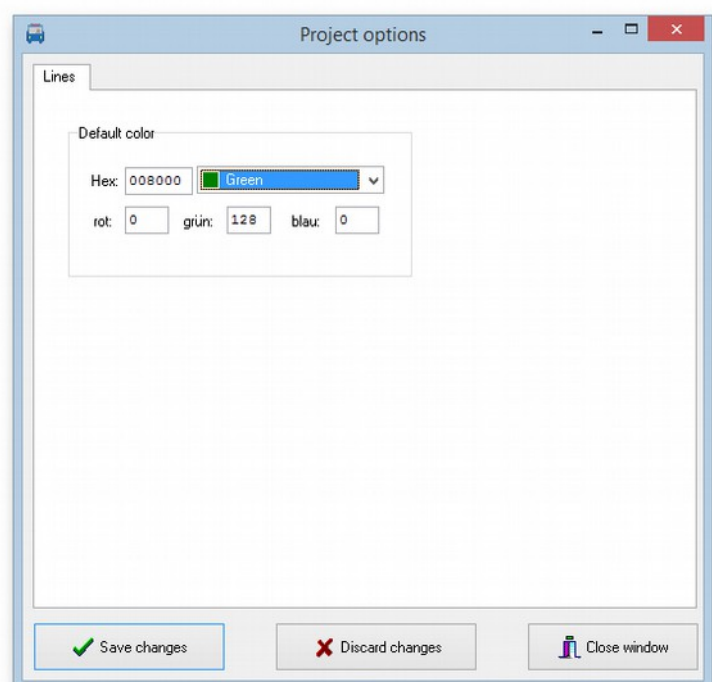
2.3.2. Selection of Days

You define the days of travel. The current version of PTraffic has no automated calculation for holidays included. When selecting a time table, the defined days of travel will be selected. Predefined are settings for Monday through Friday, Saturday and Sunday.

2.3.3. Time-schedule

Allows you to change the maximum travel time between 2 adjacent stations. This is to prohibit longer travel times in the editor and thus can be used to reduce errors when entering data.
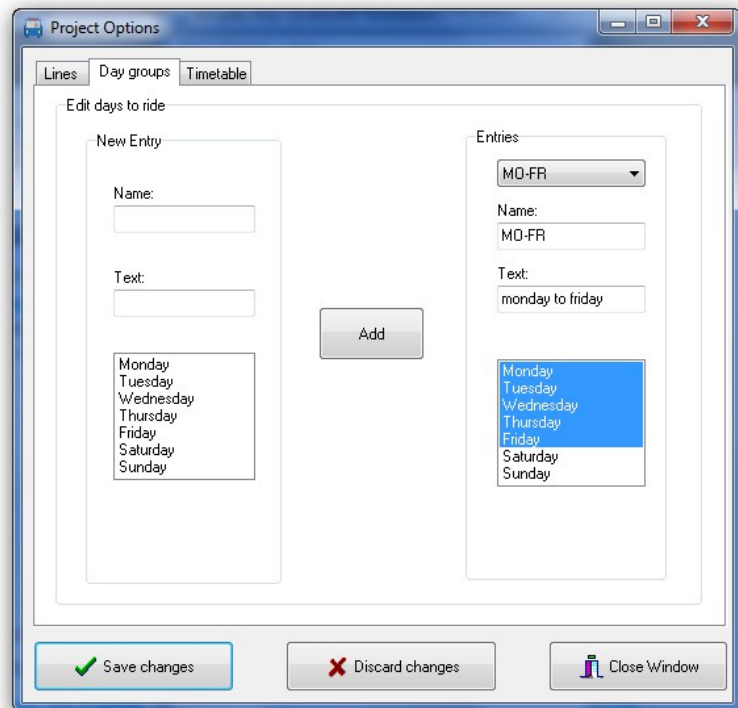
3. Editing data

After definition of a new project you start to enter the timetable details.

We suggest you use the following sequence for every line:
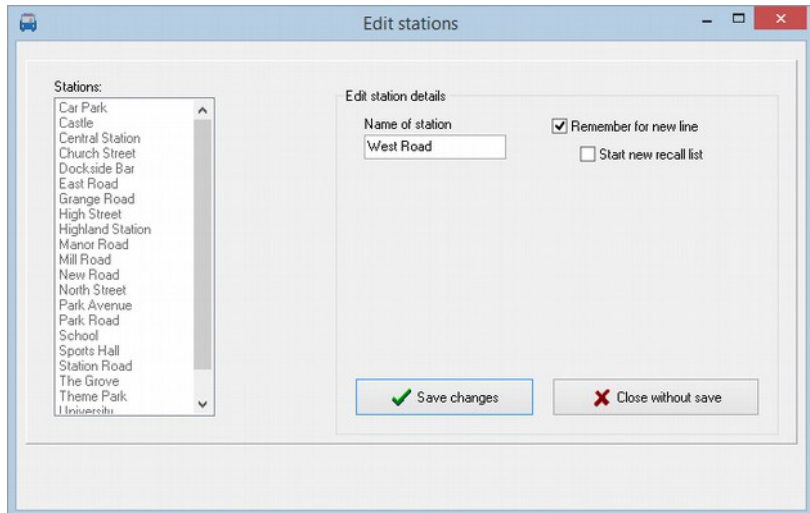
1. Define stations along a line
2. Define the line
3. Assign stations to the line
4. Define timetables

3.1. Edit station details

Click „Edit stations" from the main window. This will open a window with functions to add, edit or delete station entries.

⟳ You can also copy station texts from other applications and paste them here.

When assigning a new station, you can select to put the station into a shortlist for quicker insertion of stations to a line later on. You will get the option to add the station to the current shortlist or start a new shortlist.
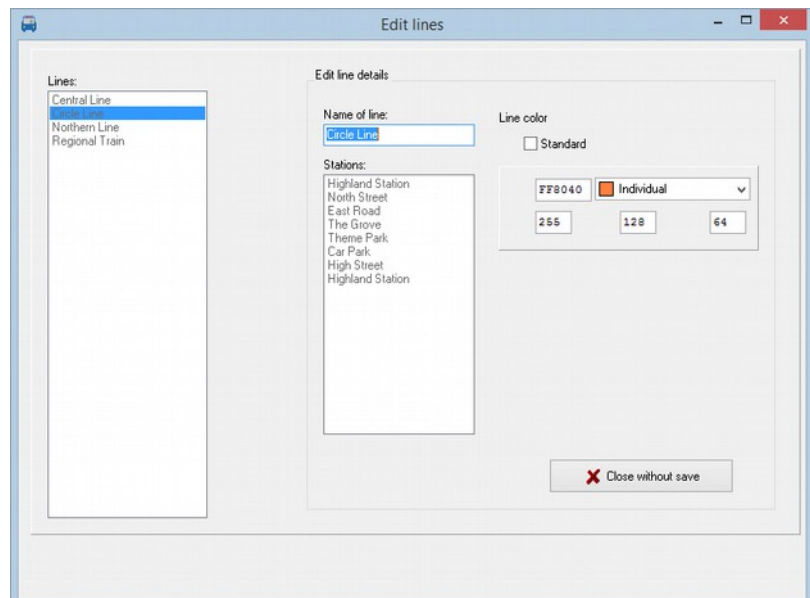
3.2. Editing line details

Click „Edit lines" from the main window. This will open a window with functions to add, edit or delete line entries.

When editing line information, you will also be presented a list of associated stations. This list is for information only – no changes to stations can be made here.

You can select a different color for every line or just use the default one which can be changed in the project options.

The line color is not used but has been implemented for usage of 3rd party applications.

3.3. Assign stations to lines

Click "Assign stations to lines" in the main window. This will open a window where you can assign stations to lines or change the assigned stations. Select a line and press the button with the right arrow.

In the allocation window the left list shows the available stations (selected by shortlist or all). The right list is the list of stations already assigned to the line.

You can add and remove stations as well as change the sequence of stations.

Notice: Stations may appear twice on a line because of different arrival and departure times. They can be added here or later in the timetable editor.

3.4. Editing timetables

In the main window click at "Process timetable". This will open the editor window.

There you enter the daily schedules for weekdays (Monday through Friday, Saturday and Sunday) and the direction (1,2). To do so, select the required values and press "Edit timetable".

In the editor you enter the details for all movements along the line.

Entering data:

- Entering time: You may use the following formats: hhmm, hh.mm, hh:mm
  If you enter times without separator, data will be padded with 0 to the left if 3 digits are entered, thus entering 107 will be interpreted as 01:07.

- Intervals: If consecutive movements are done with the same interval you enter amm for the next movement to indicate the interval. So a10 for the next movement will make a 10-minute interval. As an alternate you may enter mmMin (such as 10Min) which is the format used for display later on.
  When you press enter or leave the input cell you get an option whether the data entered are to be used for the following stations. If you decide to do so, the data are used for the following stations.

- Entering minutes: If you enter 1 or 2 digits these will be interpreted as a minute and the hour of the previous station will be used. If the minute entered is lower than the minute entry of the previous station, one hour is added. Crossing midnight will be respected too, so 24 will be reset to 00.
  If this is the first station the previous entry will be used for calculation.

- Using the value from a previous cell: To copy the value from a previous cell you can enter =, s or S.
- Using the value from a previous movement: Movements are numbered and you can enter =nn, snn or Snn to copy the time differences from the movement nn. The movement will then be calculated automatically.
- Adding minutes: Enter minutes in the form +mm to add minutes to the previous time entered.

In the timetable, you can double stations that occur only once in the line with the '+' sign in the 1st column to enable separate specification of arrival and departure times. You can also delete one of the two stations (or lines) with '-'.

Using the help button will show a quick reference of common used editor functions in a separate window.

3.4.1. Insert or delete columns

Insert column will insert an empty column to the left of the selected column which is shifted to the right.

Delete column will delete the selected column from the table and the remaining columns will be shifted to the left.

3.4.2. Delete timetable

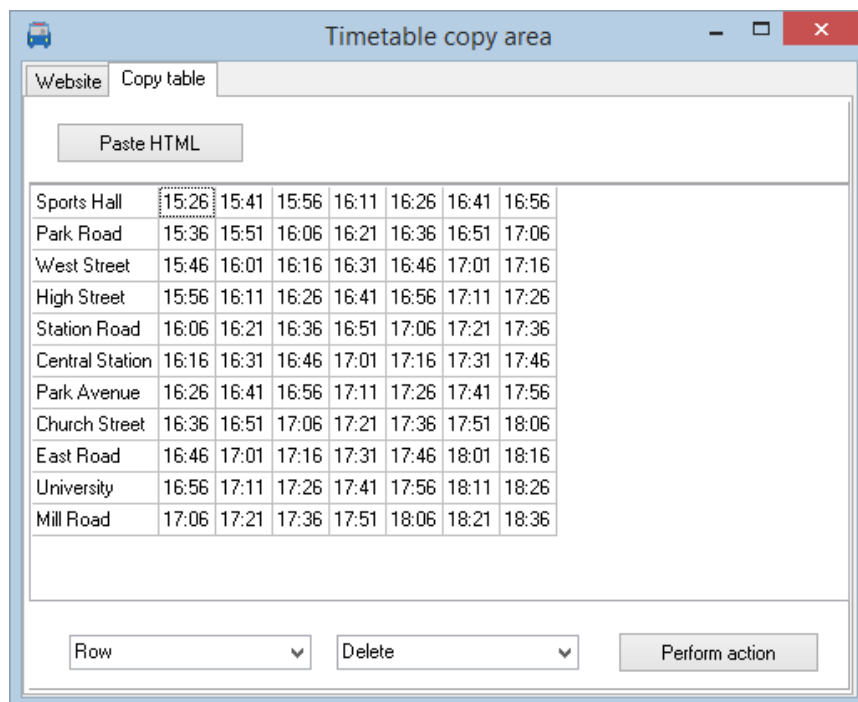Click at "Delete timetable" to delete the entire timetable.

3.4.3. HTML import

If you click the 'HTML Import' button in the timetable editor you can try to copy data from existing Internet pages into the timetable enabling departure time.

To use this function if the selected internet site looks approximately the same as the PTraffic Editor and is built as a normal HTML table.

The station names to be imported should essentially be the same as the one already defined to allow best results when importing the table.

Imported data can be adapted to match your schedule and are then imported.

The import process:

1. Click on „HTML import" to open the import window
2. Choose register "Website"
3. Enter the web-URL and press "Display website"
4. After the page is displayed completely press "Copy HTML"
5. Change to register "Table copy"
6. Click on "insert HTML". If the website can be interpreted a table of schedules will be displayed.
7. Change the import data to insert, delete or duplicate entries so it fits your requirements. This may be necessary to enter stations with different arrival and departure times.
8. Select the area you want to copy into your own schedule and press "Copy selected area to clipboard"
9. Close the import window and navigate to the position in your schedule to place the data. Select "Insert HTML selection" to put the data into your schedule.

💡 If importing directly from the website does not work, you can try to select the table on the website and copy it to the clipboard. Then you can paste it into the spreadsheet (Open Office Calc, Excel). Here you can then edit the table if necessary and then save it as an HTML file.
Then call up the HTML file in the browser and copy the address in the Website tab of the Import window.

Edit timetable — □ ✕

Line: **Central Line**

🌐 Import HTML   te timetable

Stations					13	14	15
+ Sports Hall							
+ Park Road							
+ West Street							
+ High Street							
+ Station Road							
+ Central Station							
+ Park Avenue							
+ Church Street							
+ East Road							
+ University							
+ Mill Road							

Timetable copy area — □ ✕

Website   Copy table

Paste HTML

Central Line	1	2	3	4	5	6	7
Sports Hall	17:26	17:41	17:56	18:11	18:26	18:41	18:56
Park Road	17:36	17:51	18:06	18:21	18:36	18:51	19:06
West Street	17:46	18:01	18:16	18:31	18:46	19:01	19:16
High Street	17:56	18:11	18:26	18:41	18:56	19:11	19:26
Station Road	18:06	18:21	18:36	18:51	19:06	19:21	19:36
Central Station	18:16	18:31	18:46	19:01	19:16	19:31	19:46
Park Avenue	18:26	18:41	18:56	19:11	19:26	19:41	19:56
Church Street	18:36	18:51	19:06	19:21	19:36	19:51	20:06
East Road	18:46	19:01	19:16	19:31	19:46	20:01	20:16
University	18:56	19:11	19:26	19:41	19:56	20:11	20:26
Mill Road	19:06	19:21	19:36	19:51	20:06	20:21	20:36

Column ⌄   Insert ⌄   Perform action

? Help   ✖ Close without save

💡 To ensure that the station lines match, it is recommended to place the import window directly next to the station column of the timetable editor (see figure). If necessary, the station column of the timetable editor can be adjusted by clicking on the [+] symbol in front of the station names to add lines or by clicking on the [-] symbol to remove lines.

3.5. Track and footpath information for PTraffic timetable information

PTraffic unfortunately does not currently support track information or information about the walking distance between different stations or between different tracks.

If you are using PTraffic for planning or testing purposes, you can implement a track with footpath information for the journey planner by treating the tracks as individual stations, e.g. "North Station Track 1" and "North Station Track 2". Then create a line "Footpath" with the two stations. In the timetable you can now enter 00:00 and 00:01 in the 1st column, enter an interval time of 1 minute in the 2nd column (enter e.g. "1 min") and 23:58 and 23:59 in the 3rd column. The timetable information would then (without changing the filter settings!) look like this, for example:

Arrival in 112 minutes, Pure travel time: 74 minutes
S3: New Road to North Street platform 1, departing: 17:36, arriving: 18:14
On foot: North Street track 1 to North Street track 2, departs: 18:18, arrives: 18:19
U1: North Street Gleis 2 to Park Avenue, departs: 18:23, arr: 18:58

With several stations with different tracks it should work as follows:
Enter the times in the timetable "staggered and consecutive", so for example with 2 stations (station A and station B) with 2 tracks:

As line:

Station A (1)
Station A (2)
Station B (1)
Station B (2)

In the timetable:

In the 1st column, the times 00:00 h and 00:01 h for station A.
In the 2nd column the times 00:02 o'clock and 00:03 o'clock for station B
In the 3rd column the interval time, e.g. 1 minute ("1 min")
In the 4th column the times 23:56 and 23:57 for station A
In the 5th column the times 23:58 and 23:59 for station B

For longer transfer times, the times must of course be adjusted accordingly.

The whole thing will probably only work satisfactorily if the stations with multiple tracks are intermediate stations and not start or destination stations, since you can only specify one station as the start or destination station.

4. Journey planner

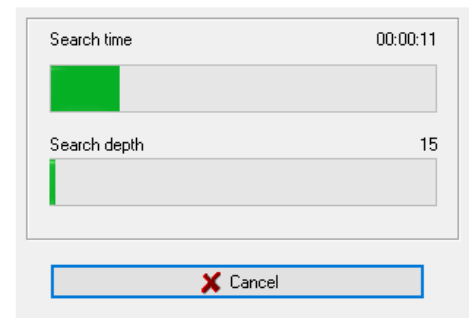Start the journey planner from the main window to query about your network.

Specify required parameters and press „Start query".

If the information is expected to take longer, a progress display appears with the search time to date and the current search depth (see image). The search can then be canceled. If the search is canceled, the connections found so far are displayed.

Sorting of the result is by showing the quickest connections in first position. If the arrival time is the same, later departures precede earlier departures for slower connections. If multiple connections have the same departure and arrival time those with fewer changes are displayed first.

The first line shows how long the search took (search time) and at which search depth the search was ended. The search depth either corresponds to the value selected under "Search depth" or is lower if the search was either interrupted or no further search is necessary because no further connections are possible.

The timetable information also works for lines where the same station occurs several times.

- **Start:**
  Choose your starting station.

- **Destination:**
  Choose your destination station.

- **Day:**
  Choose the day or day group of travel. The day groups may be changed in the project options. If day groups overlap (Example: Monday-Friday and Tuesday-Thursday) only single days are presented for selection.

- **Search depth:**
  Usually the best connection will be found by little search depths.

- **Departure:**
  Choose your preferred time of departure.

- **Maximum transfers:**
  Define the maximum of transfers between lines you want to accept.

- **Maximum number of connections:**
  Define the maximum number of connections are displayed.

- **Maximum search time:**
  Define the time period used for the search process. Search will end after this period and the search depth will be displayed at the begin of the list.

- **Showing AM/PM instead of 24 hour clock**
  The English version of PTraffic allows to display time values in 12 hour format (AM/PM). The setting also applies to the timetable of connections and for the graphical connection overview.

🖫 **Save**
The connections found will be saved in text format.

🖨 **Print**
The connections found will be printed.

4.1. Optimizing search time

Most of line networks will provide for a very short search time on usual PC's, so a change to the search period will not have much of effect.

Using large line maps or slow PC's may you force to make use of some settings.

Rising the search depth will increase the time for search. If all connections are already found on low values, the higher value is ignored and has no effect.

Lowering the value for maximum transfers will decrease the time used for search.

Some impact is also given by specifying the maximum number of connections. Lets have an example:

Choosing to display only 1 connection and this one has a travel time of 30 minutes we stop the search for all connections longer than 30 minutes, while displaying 10 connections and the 10th has 50 minutes of travel time we may investigate for much more connections to reduce the travel time.

4.2. Connection Table

🏢 Click the table symbol to create a connection table of the results found in the journey planner.

	1	2	3	4	5	6	7	8	9	10
New Road	12:40 PM	12:40 PM	12:40 PM	12:40 PM	01:40 PM	12:40 PM	12:40 PM	01:40 PM	01:40 PM	01:40 PM
Central Station	01:20 PM	01:20 PM	01:20 PM	01:20 PM	02:20 PM	01:20 PM	01:20 PM	02:20 PM	02:20 PM	02:20 PM
Central Station	01:31 PM	01:31 PM	02:20 PM	01:24 PM	02:31 PM	02:20 PM	01:24 PM	02:31 PM	03:20 PM	02:24 PM
East Road	02:01 PM	02:01 PM	02:40 PM		03:01 PM	02:40 PM		03:01 PM	03:40 PM	
East Road	02:16 PM	02:46 PM	02:46 PM		03:16 PM	03:16 PM		03:46 PM	03:46 PM	
High Street				01:44 PM			01:44 PM			02:44 PM
High Street				02:00 PM			02:00 PM			03:00 PM
Highland Station				02:30 PM			02:30 PM			03:30 PM
Highland Station				03:00 PM			03:30 PM			04:00 PM
North Street	02:46 PM	03:16 PM	03:16 PM	03:30 PM	03:46 PM	03:46 PM	04:00 PM	04:16 PM	04:16 PM	04:30 PM

🖫 Click to save the connection table as JPEG graphic.

🖨 Click to print the connection table

4.3. Graphical Connection View

Click the bar chart symbol to create a graphical connection view. This view will show the connections found as bar chart.
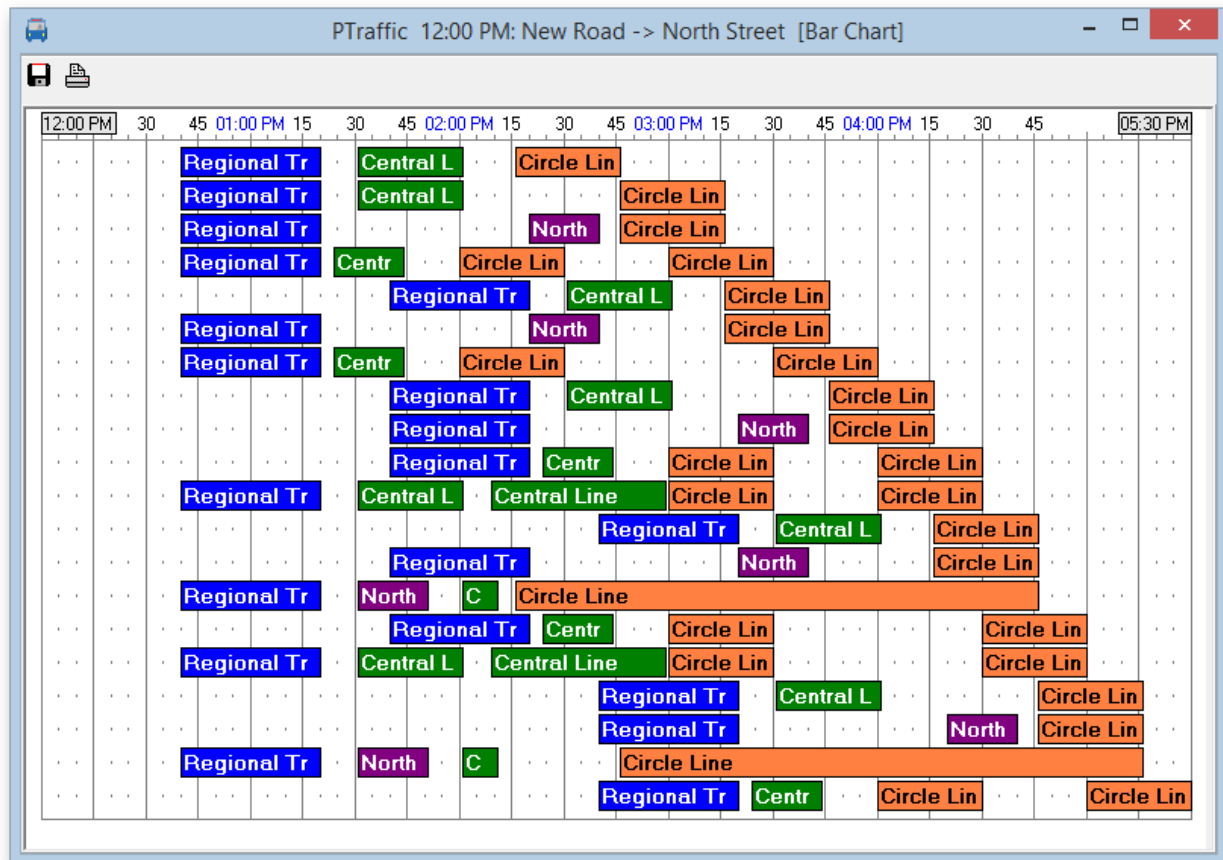
Click to save the connection table as JPEG graphic.

Click to print the connection table

4.4. Service Planning Diagram

Click the Service Planning Diagram icon to create a Service Planning Diagram. This view will show the connections found as Path-Time diagram and provides for an excellent overview of the connections found.
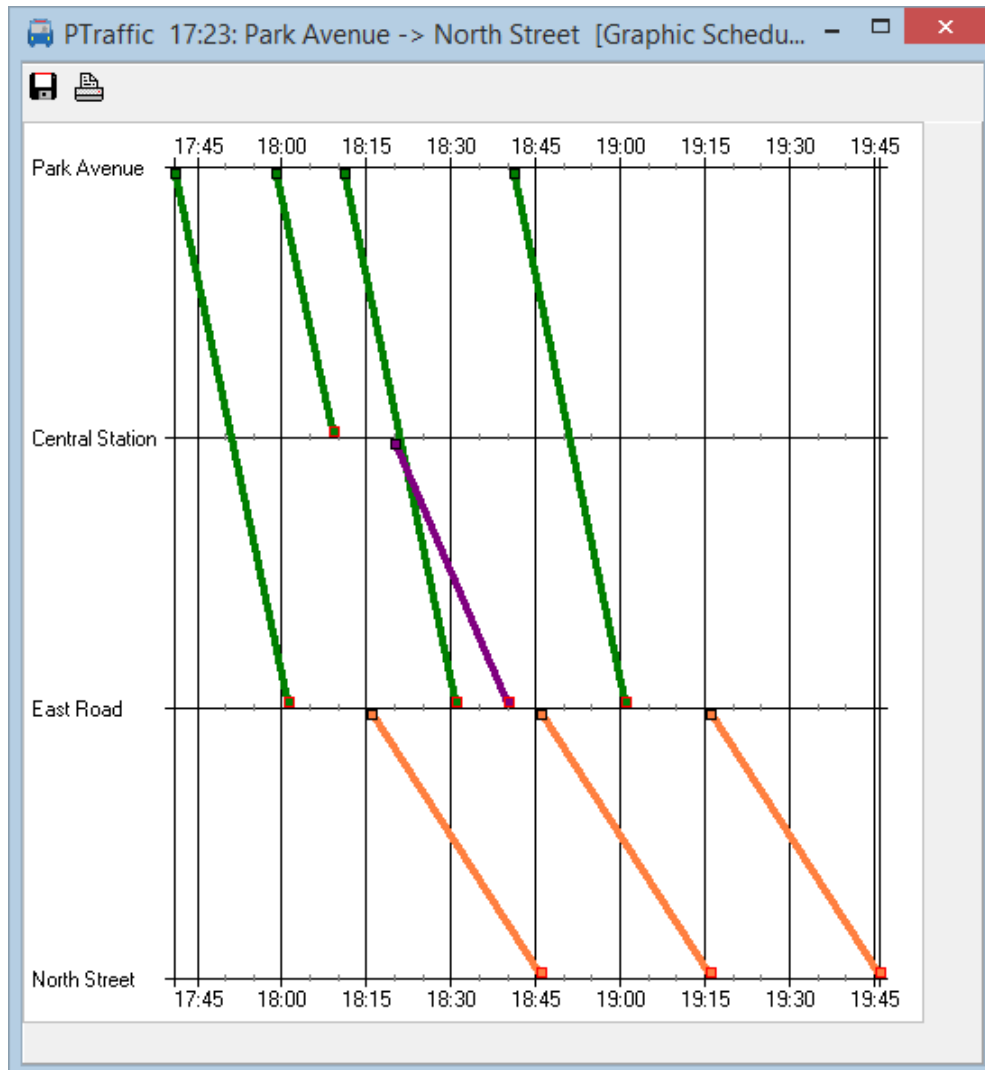
  Click to save the Service Planning Diagram as JPEG graphic.

  Click to print the Service Planning Diagram.

4.5. Filter

Search results are reduced by omitting connections that are not quite meaningful. The Filter may optionally be turned off to show all connections.

5. Browser-Applications

PTraffic already contain some modules that uses the default Web Browser of your system. These were tested under the current browsers on Windows 7, 8 and 10. Due to different versions and settings (especially in older browsers) various problems may show up. If so, please use the most actual version of your browser or try a different one.

Unfortunately, it sometimes happens that browser or operating system updates are made changes that lead to errors on the website. As far as possible, the program will then be adapted accordingly with the next update.

The Web-applications will be started by clicking at the globe icon in the main window.

The following applications are available:

- **All Stations**
  Show all stations.

- **All Lines**
  Show all lines.

- **Course of a Line**
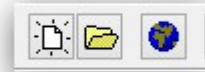 Show all stations for a selected line.

- **Timetables**
  Show timetables for a selected line.

- **Actual rides**
  Show current rides for a certain time on a selected line.

- **Timetables for period**
  Show rides for a selected line in a given period.

- **New: Graphic schedule**
  Displays a graphical representation of the schedule for a line for a specified time interval. Colors, size and day of week may be specified individually.
  Hint: Most browsers allows to print or save the graphic schedule by right clicking the schedule graphic and select „Display graphic" or „Save graphic as...").

- **Timetable for stations**
  The timetable for stations shows rides from a station for a selected line, direction and days of travel.

- **Departure plan**
  The departure plane shows actual rides for a previously selected station for a period of time.

- **Departure board**
  The departure board shows the actual rides for a selected station for a period of time. The departure board will be updated on a regular basis.

- **Information for passengers**
  Show passenger information for a selected line.

5.1. How to make projects available on the internet

You can use PublicSQL and JavaScript to create your own Web-Applications for your PTraffic projects.

To publish your project at the internet you can create web-sites including the required browser applications with „Create website" in the project menu.

Choose a folder to store the website files.

For project files and HTML files (including style sheet and java-script) you can choose to copy. If you made individual changes to some files you can then avoid copying them to keep your modifications.

Click „Create website" to copy necessary data into your folder. Click „Show website" to open the website in your default browser.

Publishing your website at the internet requires you to use a FTP program outside of PTraffic. Copy the complete folder including the sub-folder „images" to your web-server.

If you choose to select data individually you require at least:

- The project file (.ppr) from the project folder.

- All PTF files (.ptf)

- The complete folder „images" including all images contained therein

- All HTML, style-sheet and java-script files from the folder „PtrafficView" contained in the program installation directory of PTraffic. You might eventually use the search function of Windows ® to locate the installation directory of PtrafficView.
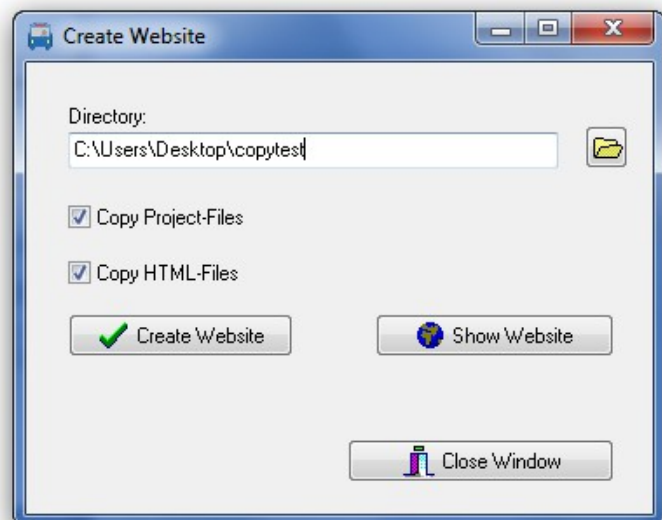
5.2. Compatibility with browsers

Since there are several browsers for different operating systems, of which in turn "countless" versions exist, it is unfortunately not possible to test the functionality for all existing browser versions. This is especially true for new browser versions that come out after the release of the current PTraffic version.

5.2.1. Google Chrome

In older Google Chrome versions the opening of some Pop-Ups doesn't work even if Pop-Ups are allowed in options. This doesn't happen if the applications are run via Internet Server (see 5.1 How to make projects available on the internet).

5.2.2. Internet Explorer

Internet explorer Version 8 may have problems on loading PTF files. Multiple reloads seem to solve these problems. To avoid this, you need to load all PTF files directly in the <head> section of the HTML file. On large projects this may be a large number of files causing some load delay.

An example for file "daygroups.ptf":

```
<script type="text/javascript" src="daygroups.ptf"></script>
```

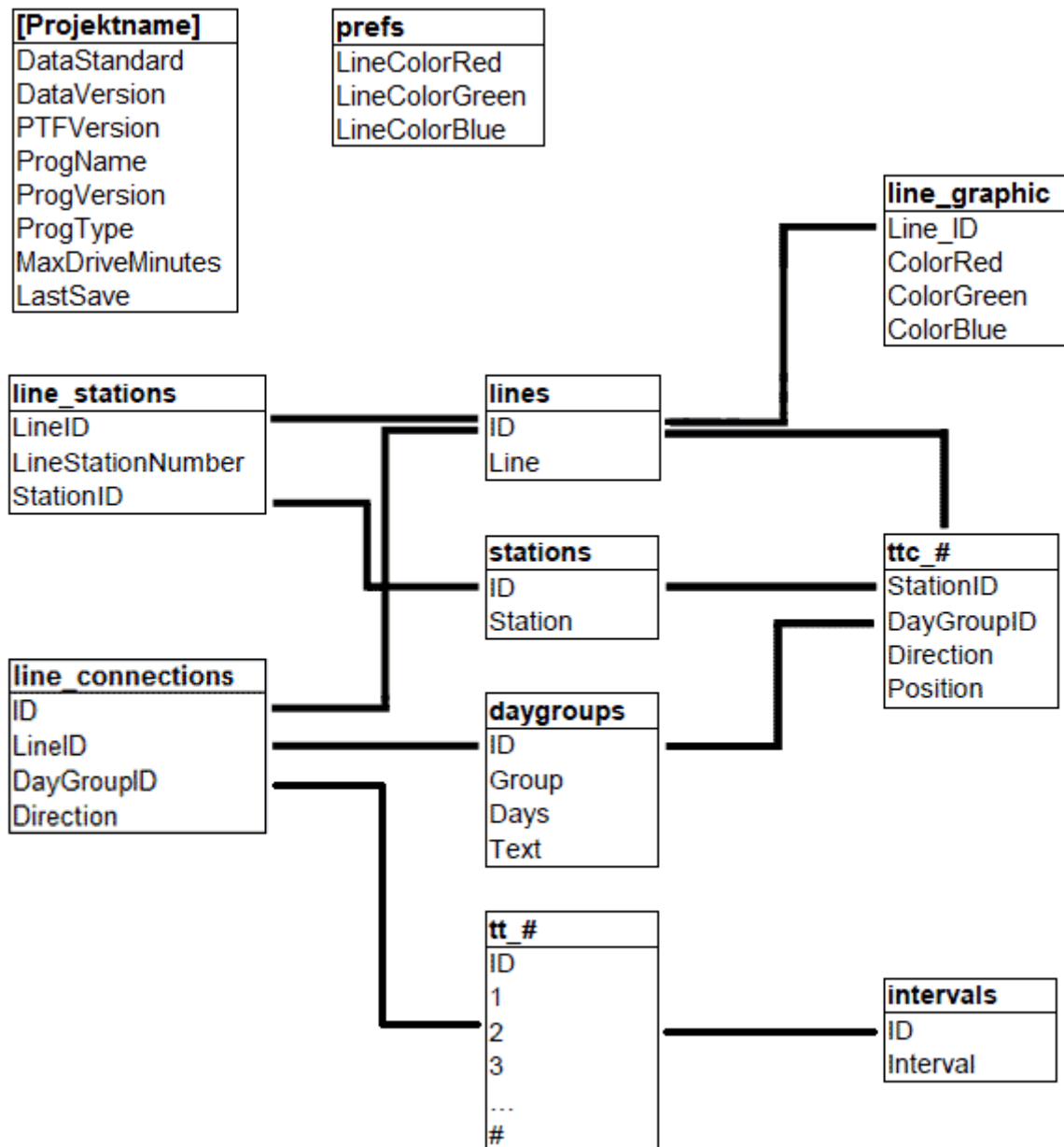As of Internet Explorer 9, which was released in 2011, the error no longer occurs.

6. Data

6.1. PTF files

The data is stored in the open "Portable Table Format" (PTF). The open source software PublicSQL can access these PTF files and individual and platform-independent web applications can be created with them (see www.publicsql.org). The integrated web applications also use PublicSQL to access the data.

6.2. Data structure

The diagram below shows the most important connections of PTF tables of PTraffic. The complete data model is shown in the additionally installed PDF files named „PTraffic Data Model".

[Projektname]
DataStandard
DataVersion
PTFVersion
ProgName
ProgVersion
ProgType
MaxDriveMinutes
LastSave

prefs
LineColorRed
LineColorGreen
LineColorBlue

line_graphic
Line_ID
ColorRed
ColorGreen
ColorBlue

line_stations
LineID
LineStationNumber
StationID

lines
ID
Line

stations
ID
Station

ttc_#
StationID
DayGroupID
Direction
Position

line_connections
ID
LineID
DayGroupID
Direction

daygroups
ID
Group
Days
Text

tt_#
ID
1
2
3
...
#

intervals
ID
Interval

The table "Tablename".ppr is the project data file used by PTraffic only.

in table names indicates a variable value, where

- ttc_# is the lines ID
- tt_# is the line_connections ID

The ID in table "intervals" may be negative in table "tt_#. Positive values indicate minutes starting at 00, thus 124 indicate 02:04.

For further information on the structure of PTF files please see the homepage of PublicSQL www.en.publicsql.org.

6.3. Data in Excel and OpenOffice

Many transport companies create and maintain their timetables with Excel or the open source alternative OpenOffice. PTraffic does not offer an export option in the current version - however, it is easily possible to copy the timetables from the web applications into the spreadsheet:

- Select the appropriate web application in your project - e.g. "Timetables" or "Period Timetable".
- Start the application with the desired settings.
- Select the area on the right side that is of interest to you.
- Copy the area (CTRL-C).
- Paste the range from the clipboard into Excel or OpenOffice (CTRL-V).

Depending on the version of the spreadsheet, the background colors are also inserted.

In many cases, only a few corrections are now necessary (entry of line, days of travel and direction, etc.).

If the results are not satisfactory, using a different browser may be helpful. The way of pasting also has an influence on the appearance. The possibilities for this depend on the program used and the version number - among others can be chosen:

- Normal paste (CTRL-V)
- HTML
- Formatted Text (RTF)
- Text only / Unformatted text

7. Limitations

The current version of PTraffic is recommended to be used at home and for smaller transport companies to create personal timetables and for planning purposes.

Larger companies may find missing options in the current version. Future Versions of PTraffic will be expanded to provide for more features and functions.

8. Compatibility

The Software PTraffic, PTraffic Pro and PTraffic ProPlus and LineMap Draw are compatible. However, some restrictions apply when using the programs since PTraffic cannot be used to draw route maps and LineMap Draw doesn't allow to edit schedule data. Associated PTF tables will therefore not be updated.

The table shows the usage of project data files.

Tables for …	LineMap Draw	PTraffic	PTraffic Pro / ProPlus
Stations and lines	✓	✓	✓
Schedules	-	✓	✓
Line maps	✓	-	✓

Working on both programs in parallel may cause inconsistency in the usage of shared tables (since edited data from one program aren't immediately reflected into the other software).

LineMap Draw is not compatible with PTraffic Show because there is no timetable data.

9. More Information

For the setup routine the program "Inno Setup" is used. Copyright (C) 1997-2021 Jordan Russell. All rights reserved. Parts of copyright (C) 2000-2021 Martijn Laan. All rights reserved. Website: https://jrsoftware.org.

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