

# **PTraffic 1.3**

## **Manual**

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# 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. Prerequisites

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

## 1.3. Installation

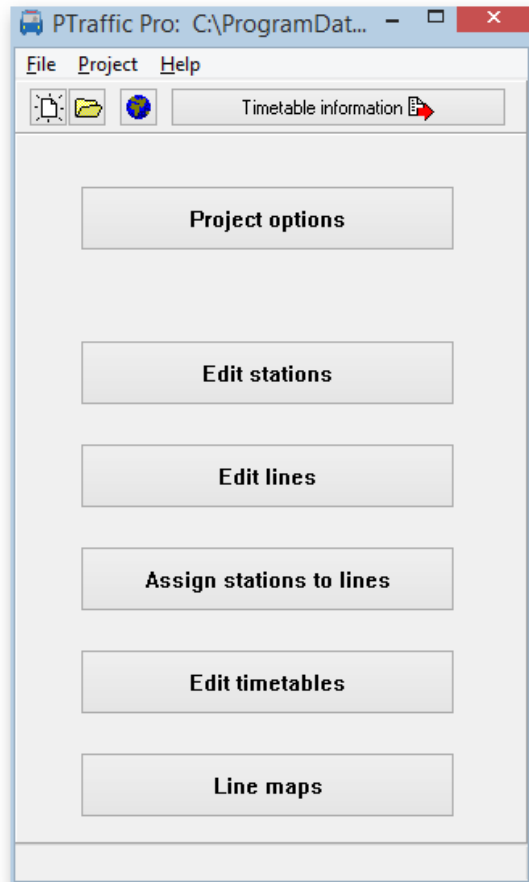
For easy installation on your local computer a setup executable for Microsoft Windows® is supplied with the application.

## 1.4. 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.



## 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

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.

### 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.

### 2.3. 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.

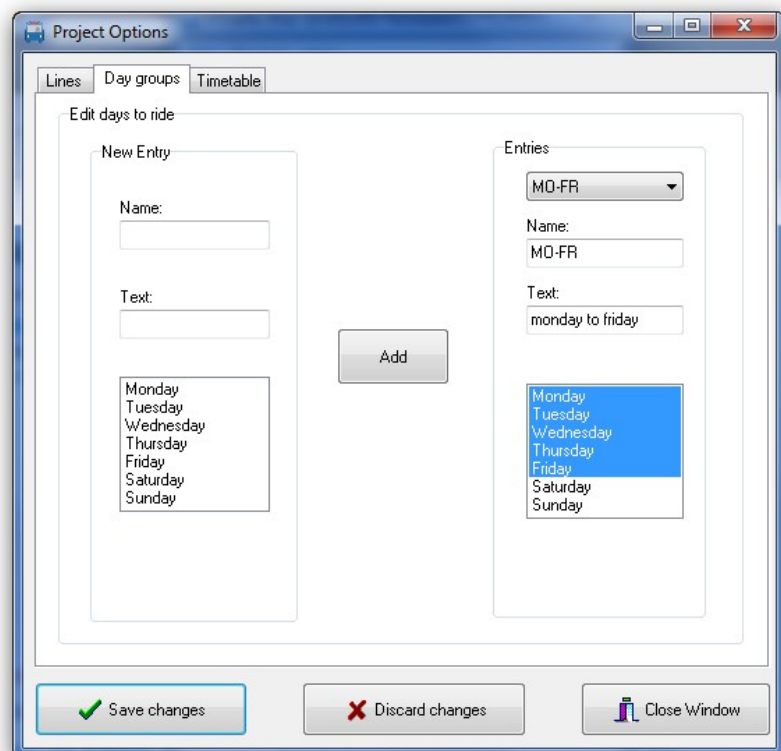
The line color is not used but has been implemented for usage of 3rd party applications.

#### 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.

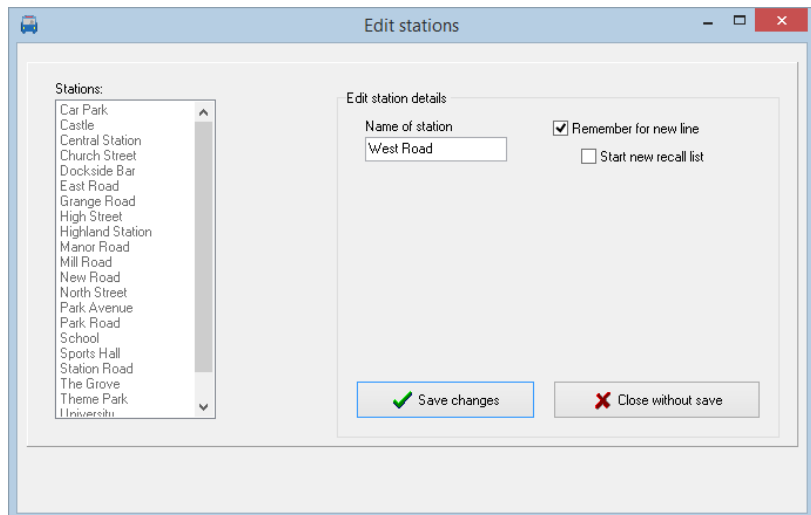
We suggest you use the following sequence for every line:

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.

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.



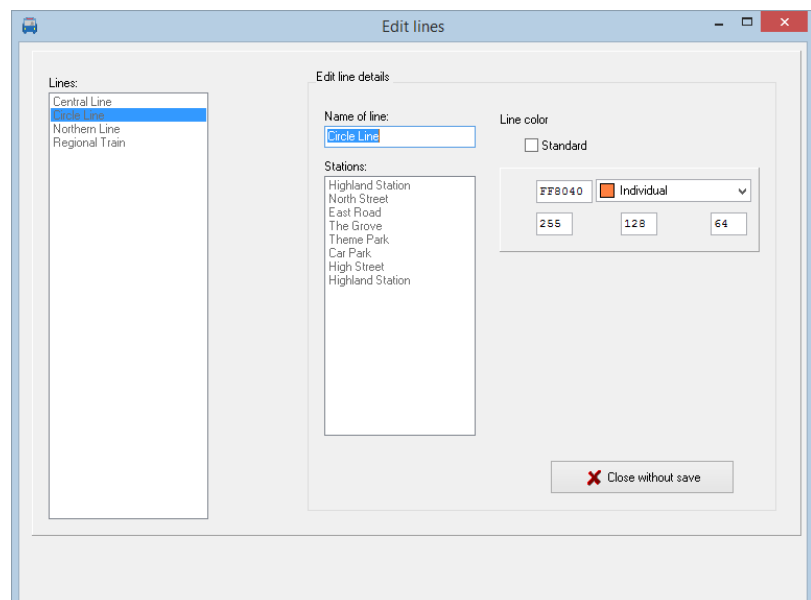
#### 3.2. Editing line details

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.



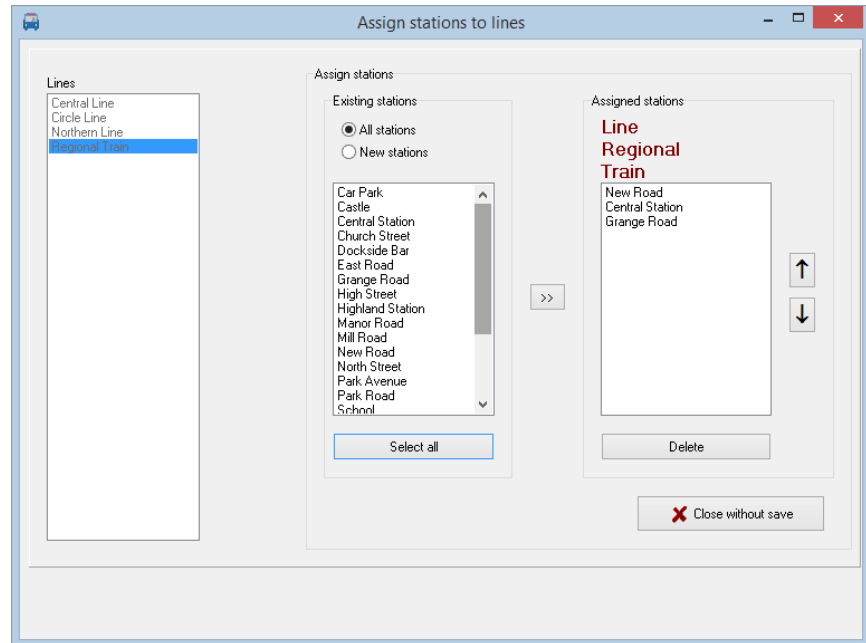
### 3.3. Assign stations to lines

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.

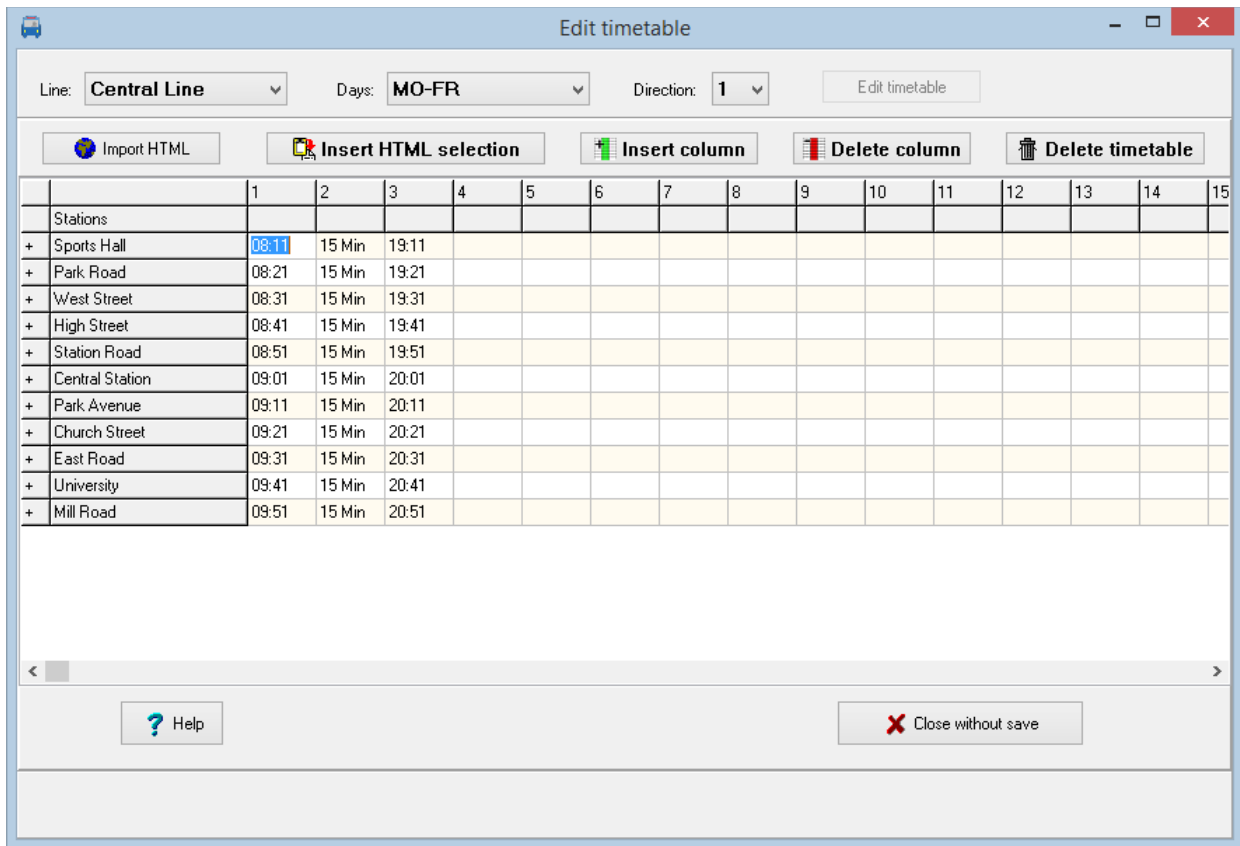
In the allocation window the left list shows the available stations (selected by shortlist or all). The right list is the list of stations already assigned to the line.

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.

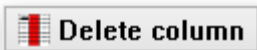
To add a different arrival/departure time you can repeat a station entry by entering a + in the leftmost column. To delete a station entry, enter a – sign in the left column.

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.



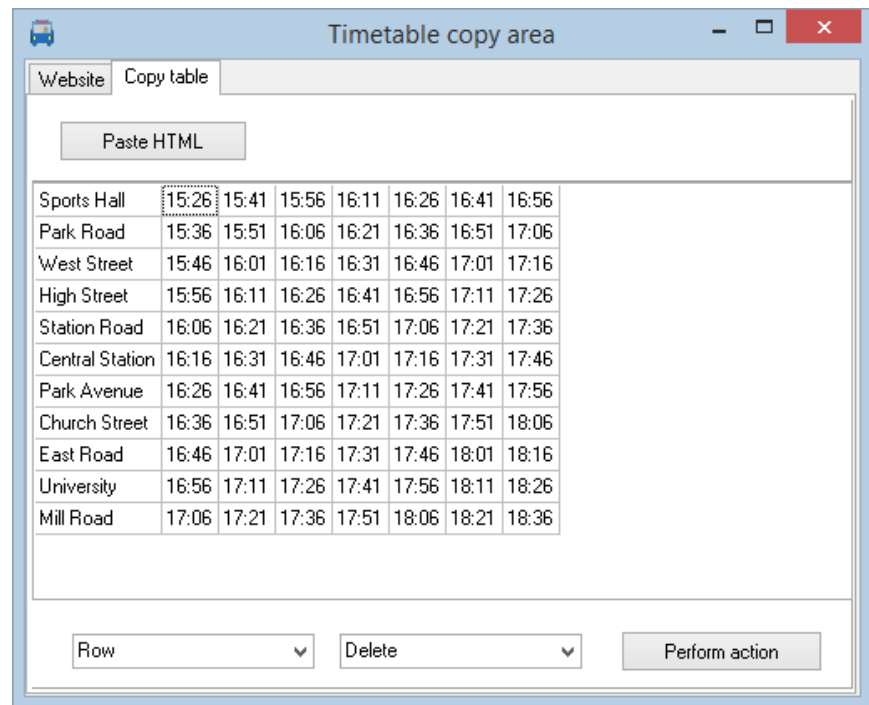
### 3.4.3. HTML import

You can try to import data from existing internet sites into your schedule.

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.

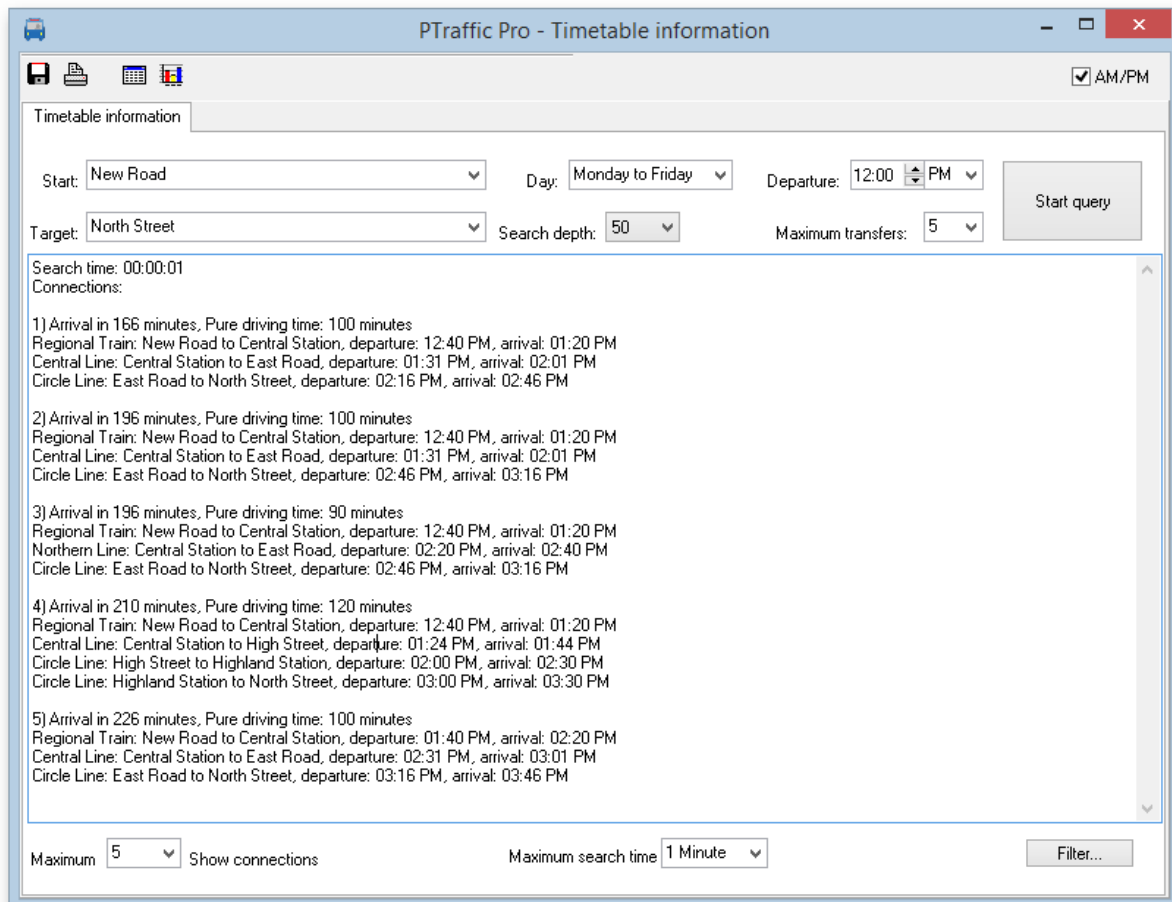
## 4. Journey planner

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

Specify required parameters and press „Start query”.

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.

For queries that are estimated to last over a longer period of time a progress indicator will be displayed.



- **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.

```
Search time: 00:00:16
Search ended because of search-depth 395
Connections:
```



#### **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 10<sup>th</sup> 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.

PTtraffic 12:00 PM: New Road -> North Street [Connection timetable]

	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.

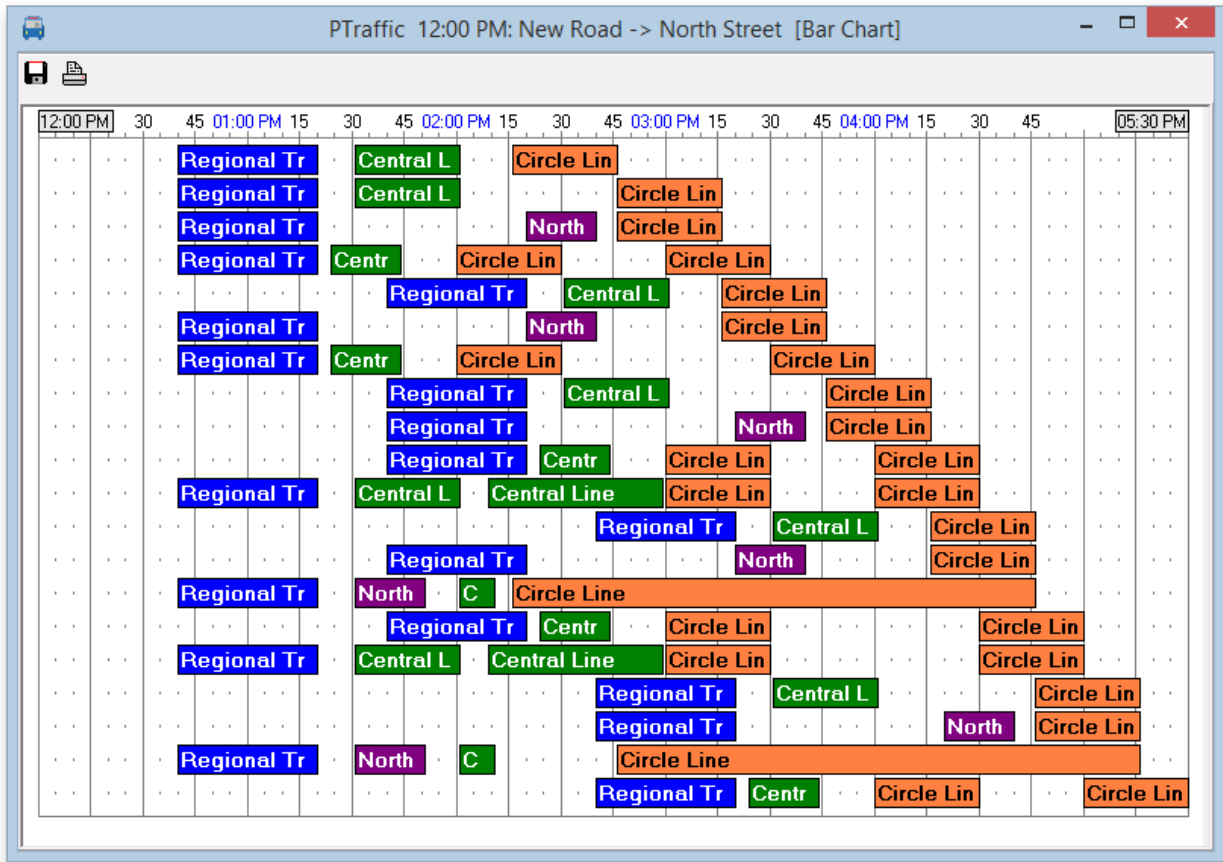


Click to print the connection table

### 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.



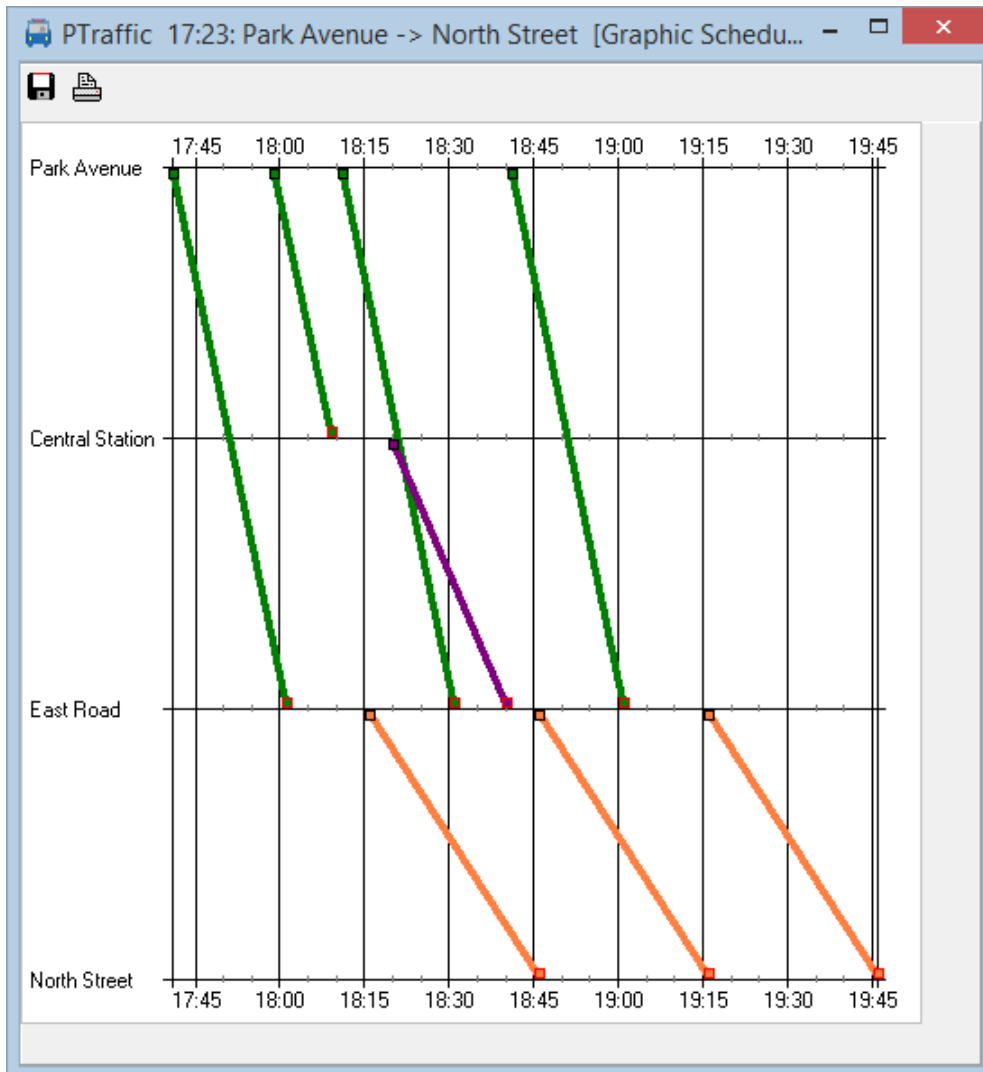
Click to save the connection table as JPEG graphic.



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.

Filter

## 5. Browser-Applications

PTraffic already contain some modules that uses the default Web Browser of your system. This has been tested using the main browser applications and Windows 7 and Windows 8 operating system. 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.

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: Firefox web browser 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

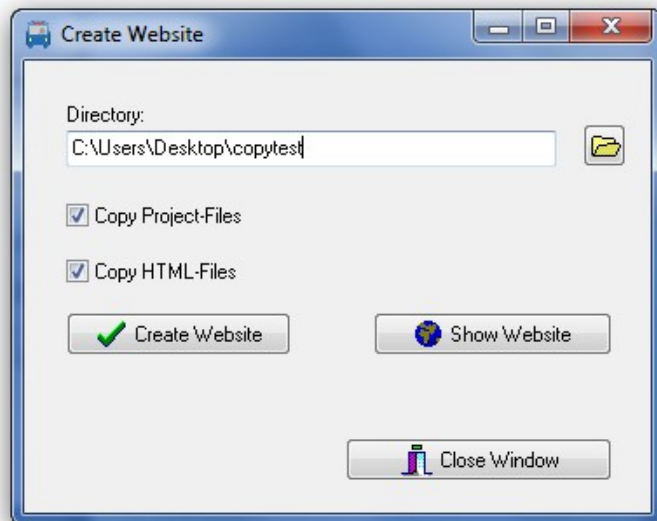
You can use PublicSQL and JavaScript to create your own Web-Applications for your PTraffic projects.

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

### 5.2.1. Google Chrome

In Google Chrome 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 next chapter).

### 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>
```

This problem does not seem to occur on Internet Explorer Version 9.

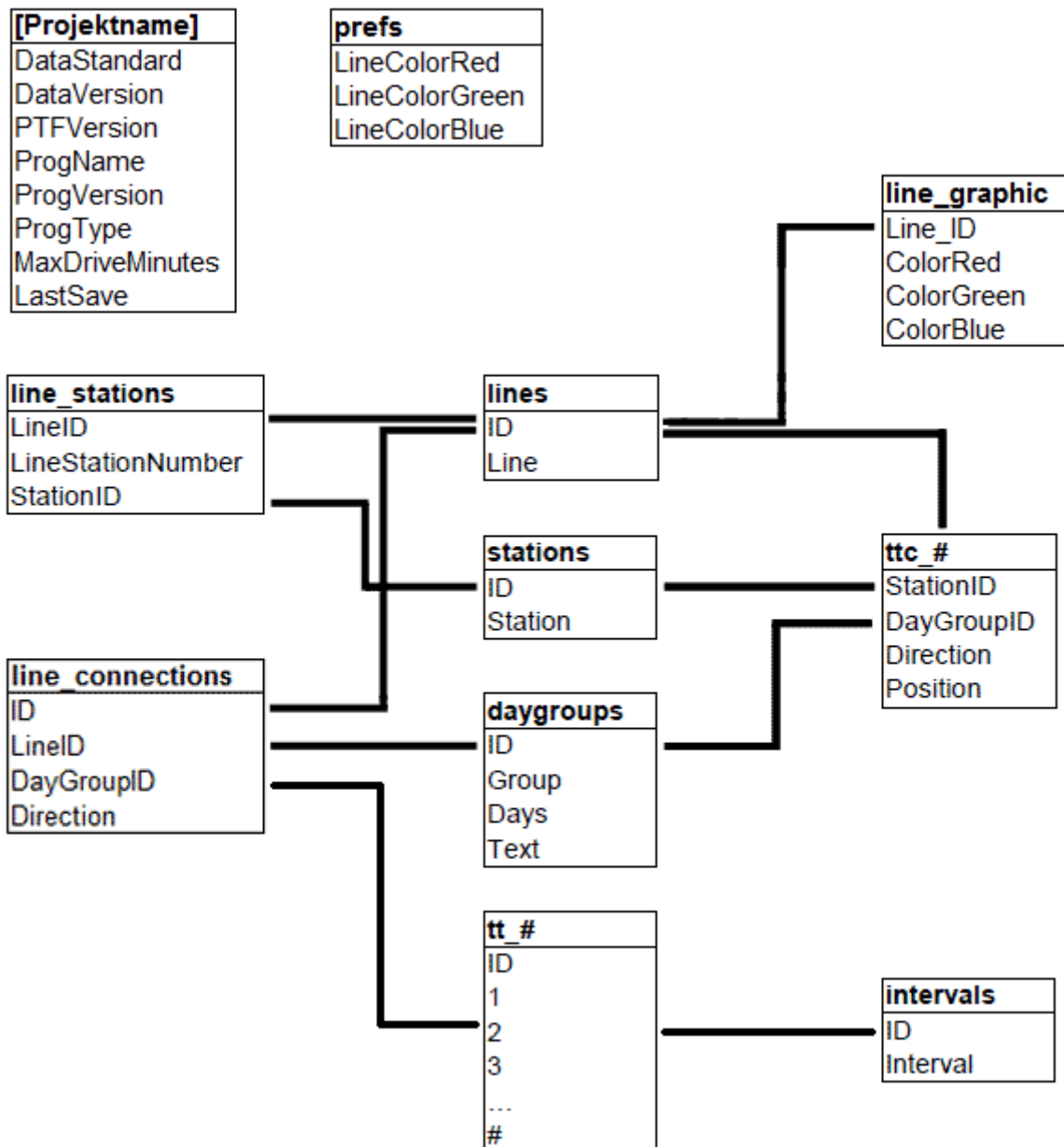


## 6. PTF files

### 6.1. 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“.

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](http://www.en.publicsql.org).

## **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. More Information**

For more information please visit our homepage at <http://www.en.pttraffic.net>.