# LineMap Draw 1.2

# Manual

# Contents

# 1. General

## 1.1. Introduction

PTraffic is designed to edit linemaps.
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 *LineMap Draw*

## 1.2. Symbols used

💡 Tip / Professional tip

🔃 Change in the manual since last version.

## 1.3. Prerequisites

*LineMap Draw* is designed to run on Microsoft
Windows® XP, Vista, Windows 7, Windows 8 and
Windows 10.

## 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 *LineMap Draw* 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 *LineMap
Draw*. The sample project can be used to make yourself familiar with the functions of *LineMap
Draw*.  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.
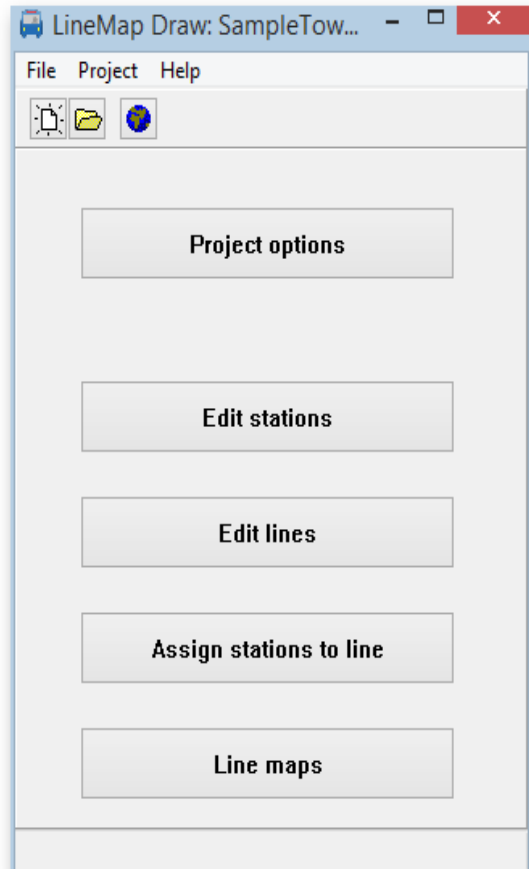
# 1.6. Software-Update
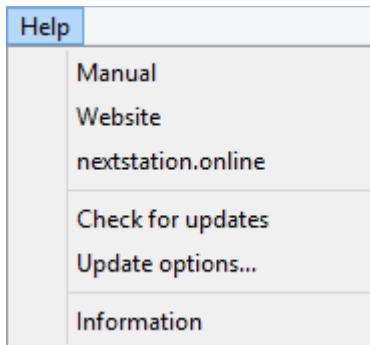
To carry out updates for the program please choose if you want to check for updates at each program start, daily, weekly or manual if needed.

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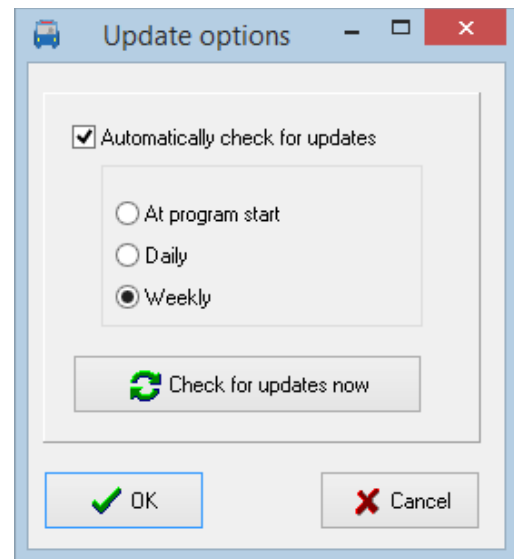  If you enable the automatic update search, the program will periodically check the Internet for updates. The search can be performed at the following time:

  - **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 *LineMap Draw* 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.
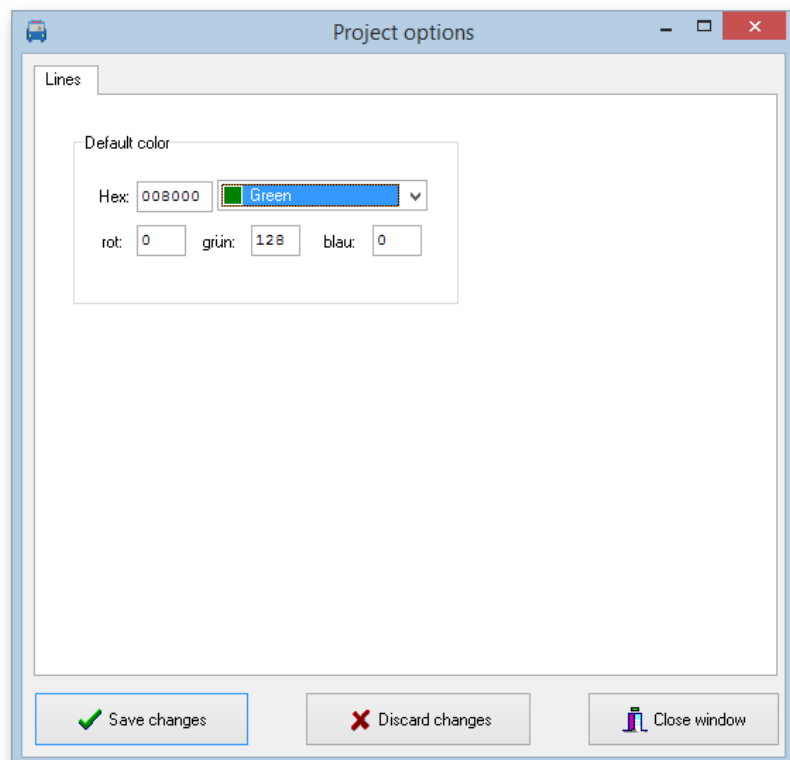
## 2.3. Project options

In project options you define important settings for your project.

### 2.3.1. Lines

Allows you to change the default color for lines.

The default line color will be used for lines in the line map editor unless specified in further definitions.

# 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.

Tip: You do not need to constantly switch between keyboard and mouse operation when entering the individual stations. The "Save changes" button is preselected and the "Edit stations" button of the main window also remains selected. Therefore, after entering the first station, you can simply press <RETURN> 2 times and then enter the next station(s).
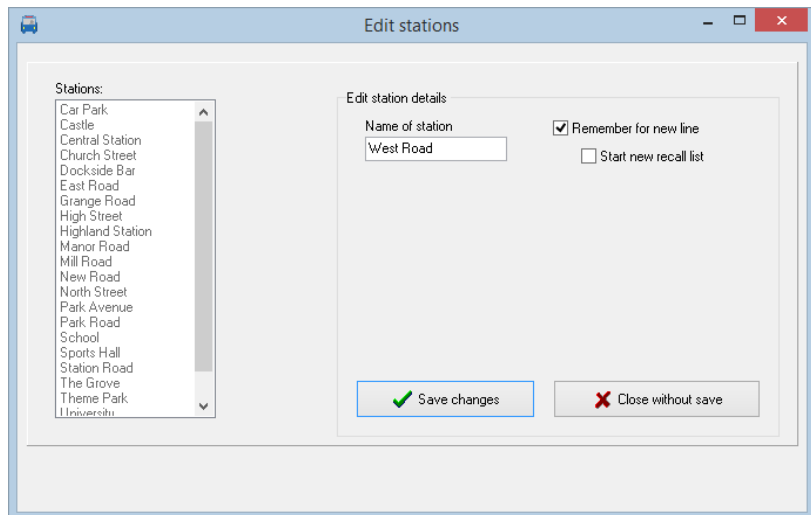
## 3.2. Editing line details

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 default line color will be used for lines in the line map editor unless specified in further definitions.
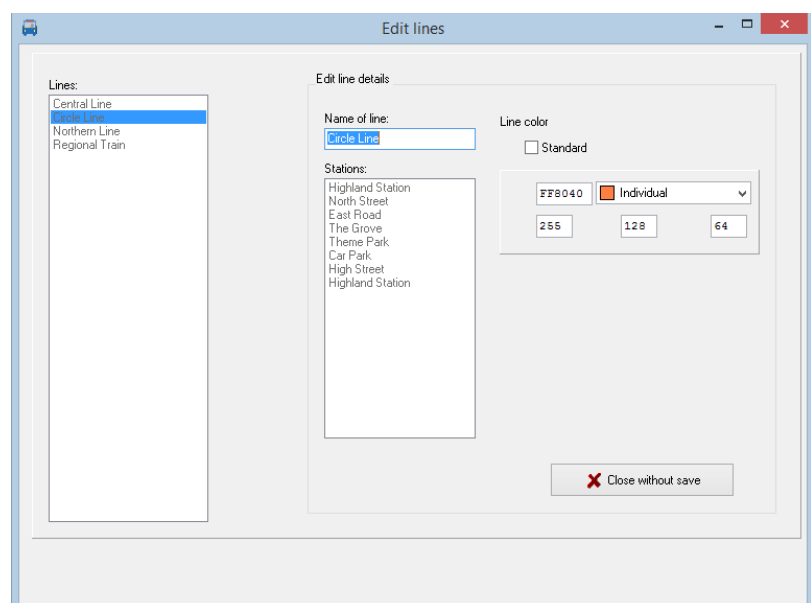
## 3.3. Assign stations to lines

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.
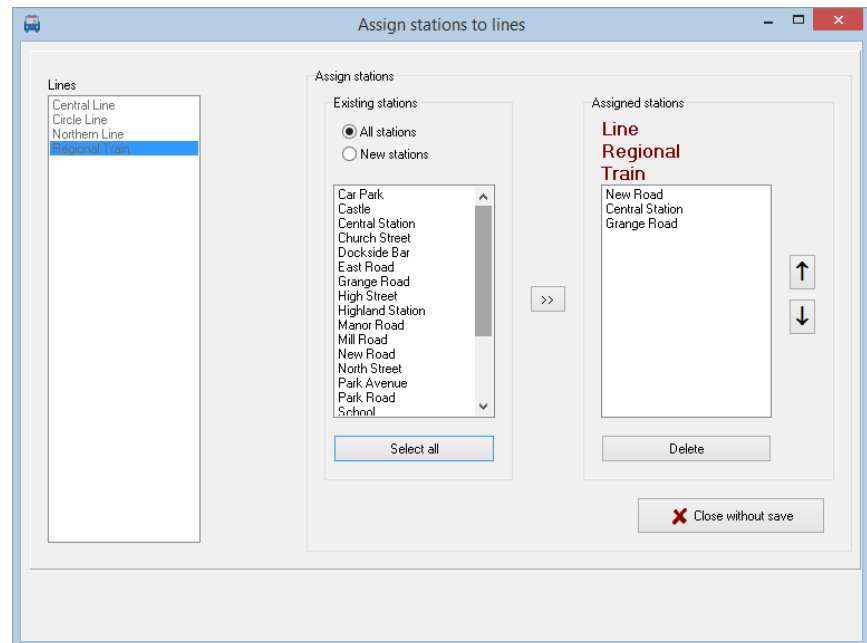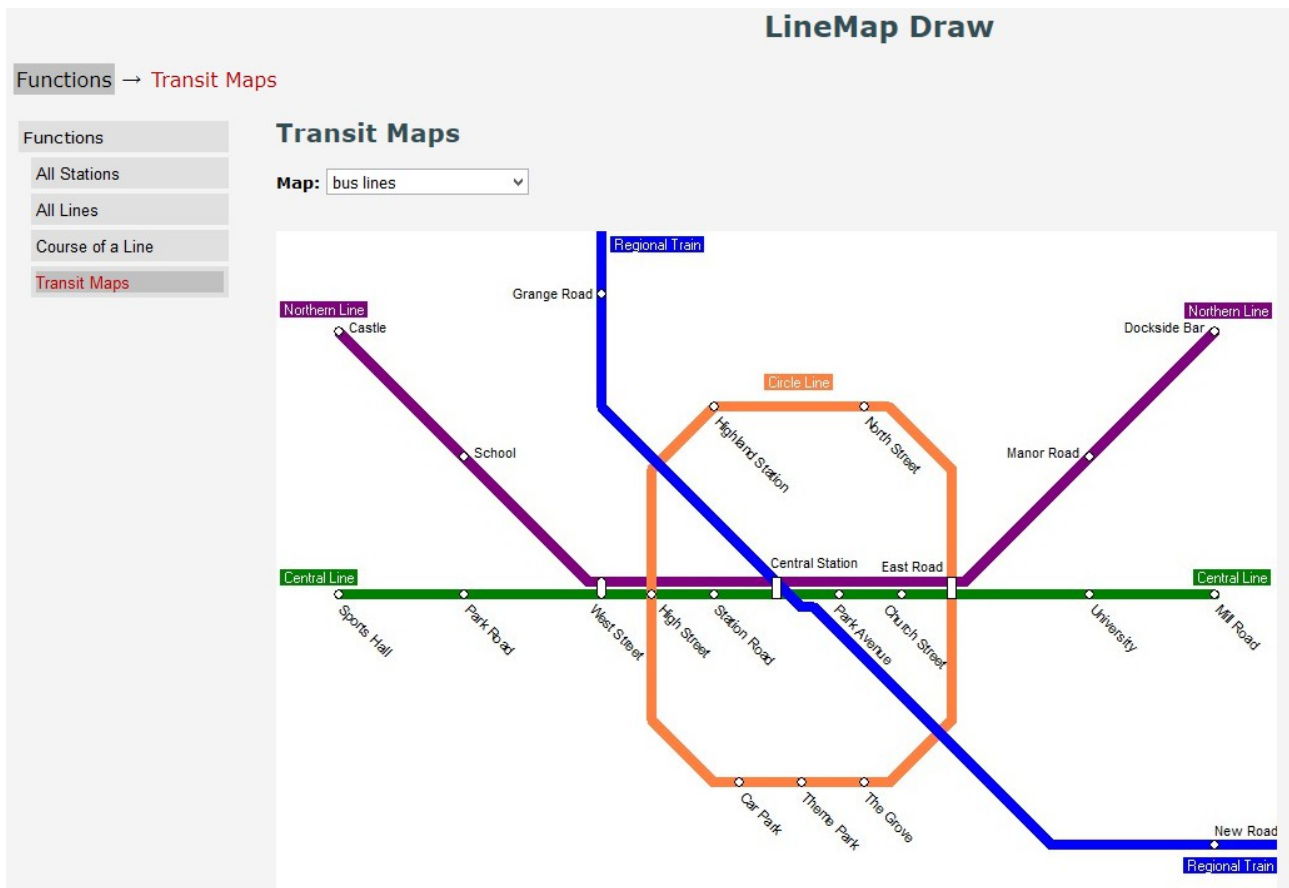
# 4. Line maps

The line map editor available in *LineMap Draw* allows you to create line maps – graphical representations of your network of lines.

The maps will be stored in JPG graphics format in the folder „images" in the project folder for further use.

With the output module the line maps can be scaled, saved as graphic image in JPG or Windows Bitmap file (BMP) format or printed.

## 4.1. Edit line maps

Before editing a line map, you need to define stations, lines and the definition which station belongs to which lines.

To create a line map, click the button „Line map" in the main window.
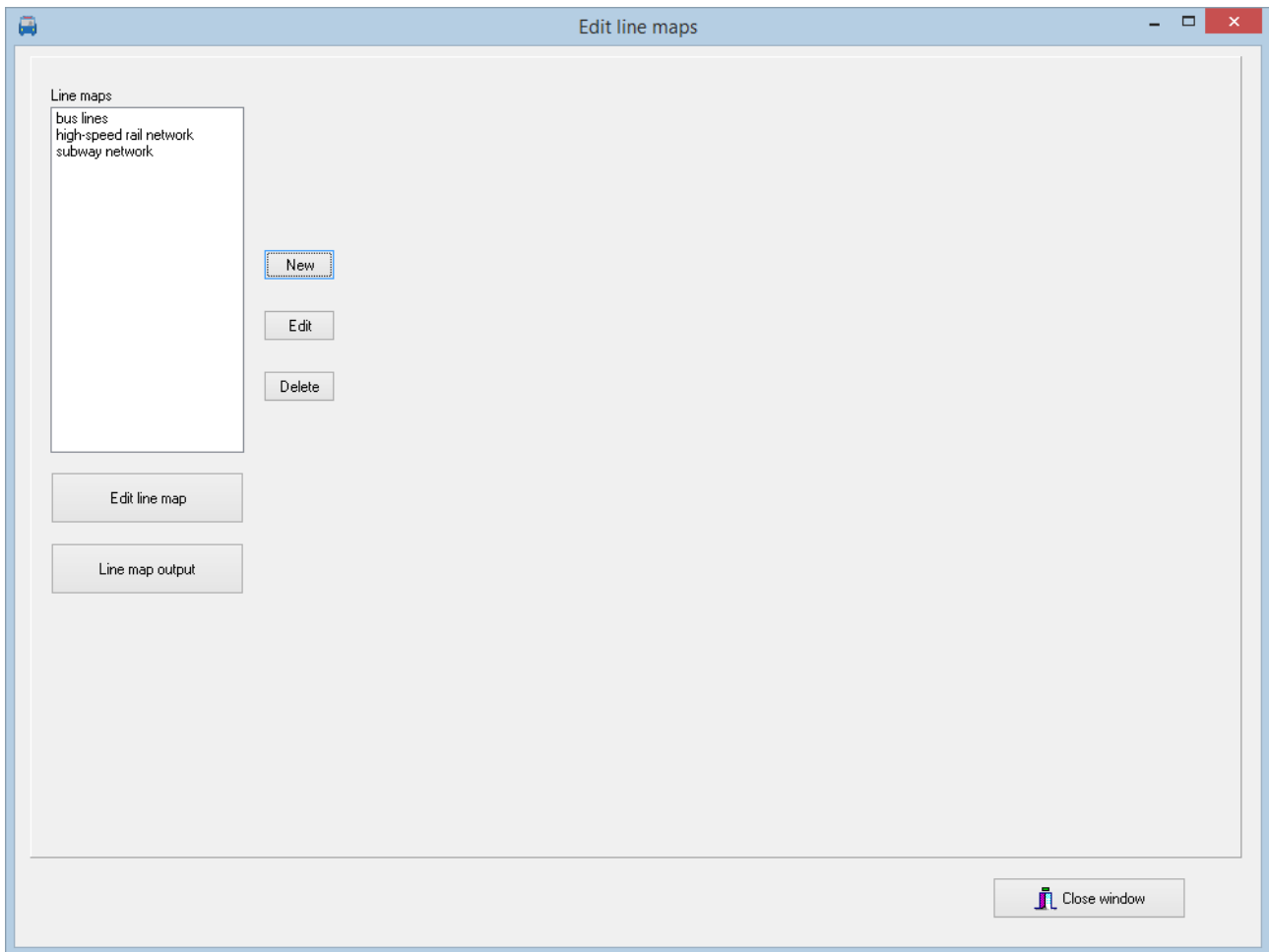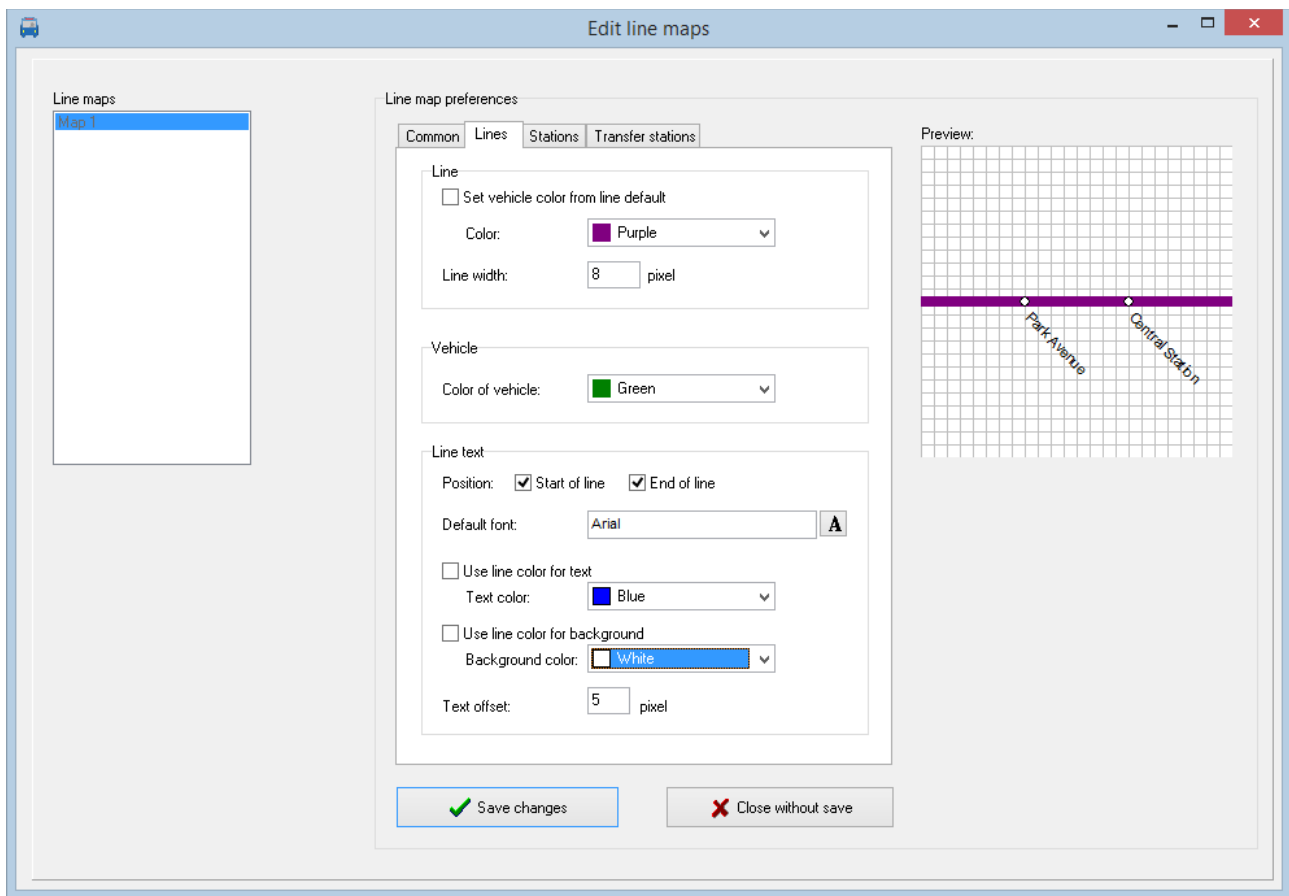


Press „New" in the next window do enter the default settings for a new line map.

To edit default settings an existing line map select it from the list and press „Edit".

To delete an existing line map select it from the list and press „Delete"

## 4.2. Line map default settings



Default settings for line maps are divided into four sections:

- **Common** - Basic settings like name, size and background.

- **Lines** – Specific settings for lines like color, text, width.

- **Stations** – Specific settings for stations like font and text position.

- **Transfer stations** – Settings for stations that are on more than one line like symbol used, font and positioning of the text.

Most of these defaults may be overridden in the specific definitions later on. Care must be taken on some settings, since their change may have an impact on the whole behavior and may produce unwanted side effects. See comments at the specific descriptions of the defaults.

The preview window on right upper corner shows how changed items will look like.

### 4.2.1. Common defaults

Here you define the defaults for the line map.

- **Name:**
  A free format name for your line map.

- **Width:**
  The width of your line map in pixels. Changes to this value may cause incorrect display of already existing lines.
  If you use a background image the width specification should match the width of your image.

- **Height:**
  The height of your line map in pixels. Changes to this value may cause incorrect display of already existing lines.
  If you use a background image the height specification should match the height of your image.



> 💡🔄 A line map that is considerably larger than the monitor resolution is difficult to draw because the visible screen section is too small. We suggest selecting the image size according to your monitor resolution for easy editing of your line map.
> For example, if you need 2480 x 1748 pixels for printing, you can first draw the line map with half the resolution (1240 x 874 pixels) and scale it accordingly before printing.

- **Grid width:**
  Lines and stations can only be drawn on this grid. The actual grid width is also shown in the preview on left upper corner.
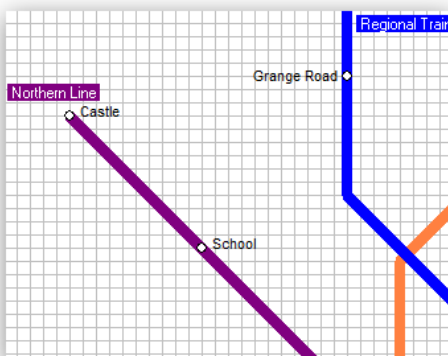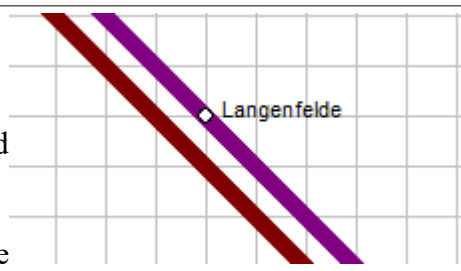


A grid width larger than one pixel serves for easier drawing of lines and stations as well as for the optical representation of the line map. To aid in drawing of lines the grid can also be used.

Changing the grid width will not change existing lines and stations and may cause them to be off the grid. New stations and lines will be drawn on the redefined grid and thus stations may be on different offsets.

It is suggested to change the grid width in multiples or integer parts of the previous one, for example change from 10px to 20px or from 10px to 5px.

With diagonal lines it is sometimes not possible to create stations at the same height and connect them with a rounded station symbol. (Picture on the left). If the 2nd line is drawn one step (or another odd number of steps) down, this is not possible, because stations can only be positioned on the intersection points of the grid (picture right).

This problem can be avoided by specifying an even value for the grid width in the preferences when drawing the lines (e.g. 10) and reducing this value to half (e.g. 5) before positioning the stations.

- **Background color:**
  Here you define the background color to be used.
  The background color will not be used if a background image is specified.

- **Background image:**
  Here you define the image to be used as background. Check the check box „Background image" and choose a file name. The image must be in bitmap format (.bmp).
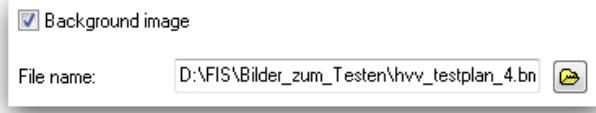
  Hint: You can use existing line maps as background to serve for easier drawing of your own one and remove or redefine the background image later according to your preferences.

## 4.2.2. Defaults for lines

Here you define the defaults for the lines. All defaults can be overridden in the line map editor for the individual lines.

- **Line:**
Choose the default line color and line width. This can be overridden in the line map editor for each line.
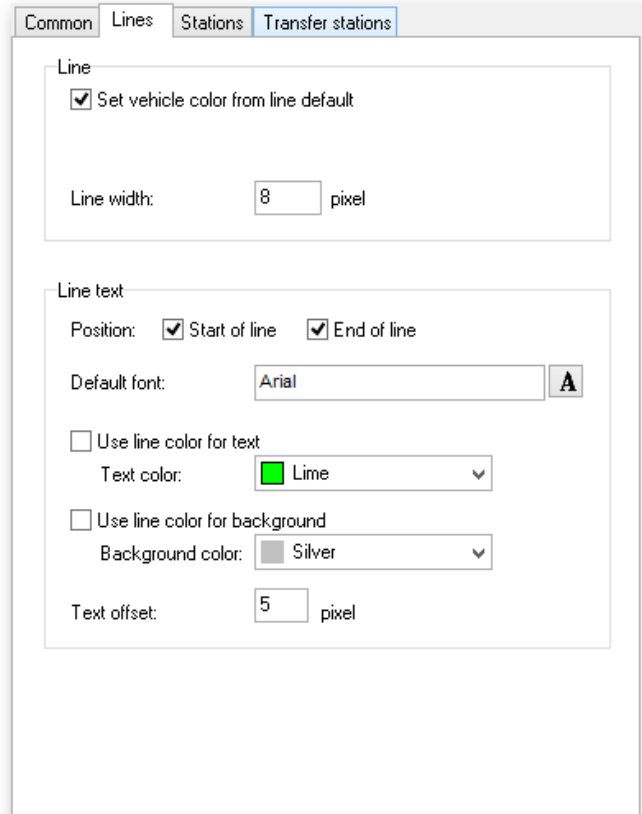Using the check box „Inherit color from line default" you specify to inherit the defaults specified in the line defaults dialog. If this is not specified here the project options setting is used.

- **Line text:**
Define the font used and the positioning of the line text. The position defines whether the text is to be placed at the start or end of a line Start and end are automatically defined when drawing the line.

  For more complex lines with branches or circular connections, the start and end position depends on when the respective line segments were added. The position of the line texts may have to be adjusted individually in the network editor.

The font selection allows you to define the font used, the color for text and associated background and the text offset.
You can easily specify to use the line color for text color or text background using check boxes.
The text offset specifies the offset of text relative to the line.

## 4.2.3. Defaults for stations

Here you define the format and placement of the station text. This can be overridden in the line map editor for each station.

- **Default font:**
    In the font selection dialog you select the font and the formatting of the station text.

- **Default position:**
    Specifies the position of station text relative to the line. Depending on the line directions you can position the text left, right, below or above the line.
    Defaults can be specified for each of the 4 line directions.



    For each line direction you have additional specifications.

    - **Horizontal placement:**
    Placement of text to the right (positive numbers) or to the left (negative numbers)

    - **Horizontal text offset:**
    Horizontal offset relative to the drawn line.

    - **Vertical text placement:**
    Placement of text below (positive numbers) or above (negative numbers).

    - **Vertical text offset:**
    Vertical offset relative to the drawn line.

    - **Text placement:**
    Specify the position of the station text as left, middle or right to the station symbol. If middle is specified, the station symbol will be centered in the station text.
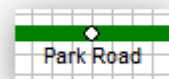


    - **Text direction:**
    Here you specify the direction of the station text in relation to the line. It can be horizontal, vertical or diagonal.



    Notice: Diagonal and vertical text can only be used with True Type fonts. Diagonal text may be poorly readable if small font sizes are used.

### 4.2.4. Defaults for transfer stations

Here you define the format and position of station properties for stations on multiple lines. This can be overridden in the line map editor for each station.

- **Default font:**
  In the font selection dialog you select the font and the formatting of the transfer station text.

- **Round symbol for station on the same position:**

  

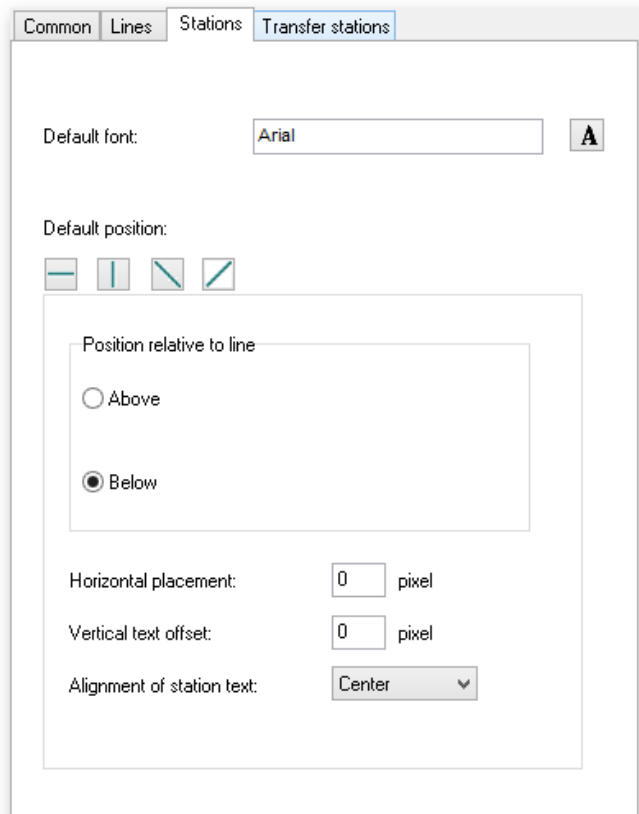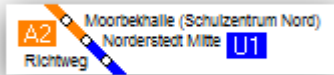  By default all transfer stations are marked with a square symbol. This option allows you to specify that a round symbol is to be used. This only works if the drawn station is at the same on both lines. In this case the text formatting of the station definition applies.

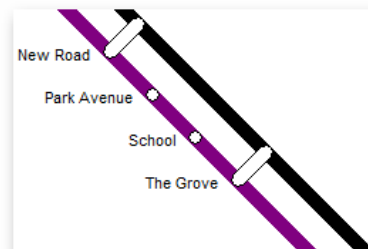- ↻ **Apply text alignment, text direction and text spacing from line settings:**
  This option can only be selected if the option "Round symbol for stations on the same position" has been selected.
  If this checkbox is activated, the settings for text alignment, text direction and text spacing from the "Stations" tab are used. from the station settings of an associated line. Since several lines contain the station, it may be necessary to try out which line is responsible for the station.

- **Rounded symbol for parallel lines with stations in the same level:**
  Use a rounded symbol instead of a square one for transfer stations like shown in the example.
  Notice: This is only valid if the station is adjacent on both lines, a square is used otherwise.
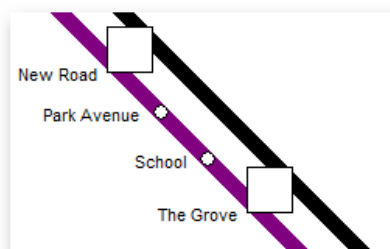


↻ Text alignment, text direction and text spacing are taken from the line settings. Which line is relevant for this is again determined by the position setting for the line in the "Stations" tab. For example, with the setting "above" for horizontal lines, the line settings of the uppermost line are used, with the setting "below" the settings of the lowest line are used. If the line in question does not contain any individual settings, the default settings from the Stations tab are used.
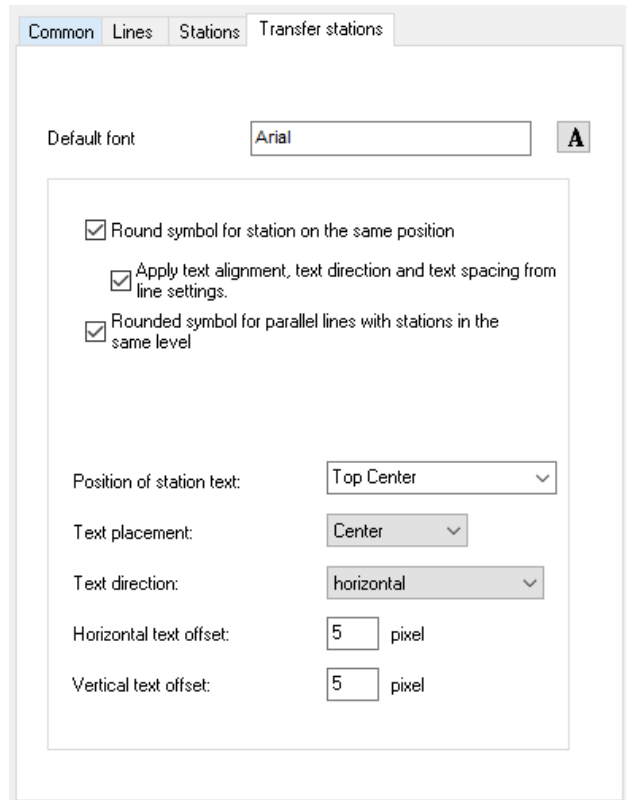
If the station is located on a "corner" of a line, the station must belong to the parallel line section - otherwise no round symbol for transfer station is used.

- **Position of station text:**
  Specifies the position of station text in relation to the station symbol.

- **Text placement:**
  Specify the placement of text (Left, middle, right). If the Position of station text is „middle below" or „middle above" the text placement can be free chosen.

- **Text direction:**
  Specify the direction for the text. The possible selections depend on the specification for the position of station text.

- **Horizontal text offset:**
  Horizontal offset of text relative to the station symbol.

- **Vertical text offset:**
  Vertical offset of text relative to the station symbol.

## 4.3. Line map editor

The line map editor allows you to create and maintain your line maps.
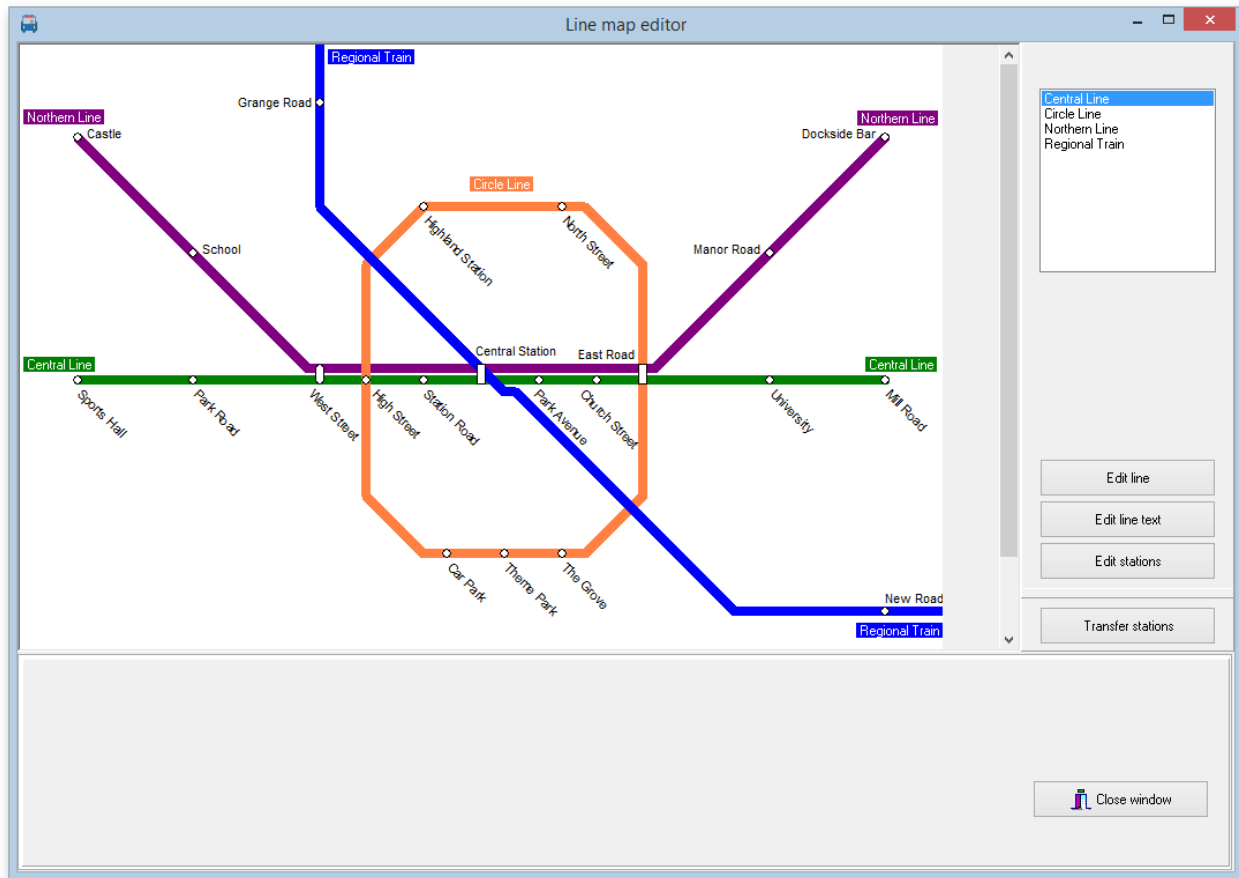


Select your line map and press „Edit line map".

The line map editor is to draw the lines and position stations along them using the following functions:

- **Edit line**
- **Edit line text**
- **Edit station**
- **Edit transfer station**

We suggest to use these functions in the given order when creating a new line map.

When selecting one of these functions you can show or hide parts of the line map.

## 4.3.1. Edit line

Choose a line in the selection window and click on „Edit line" to create or edit line details.
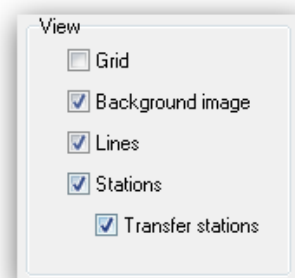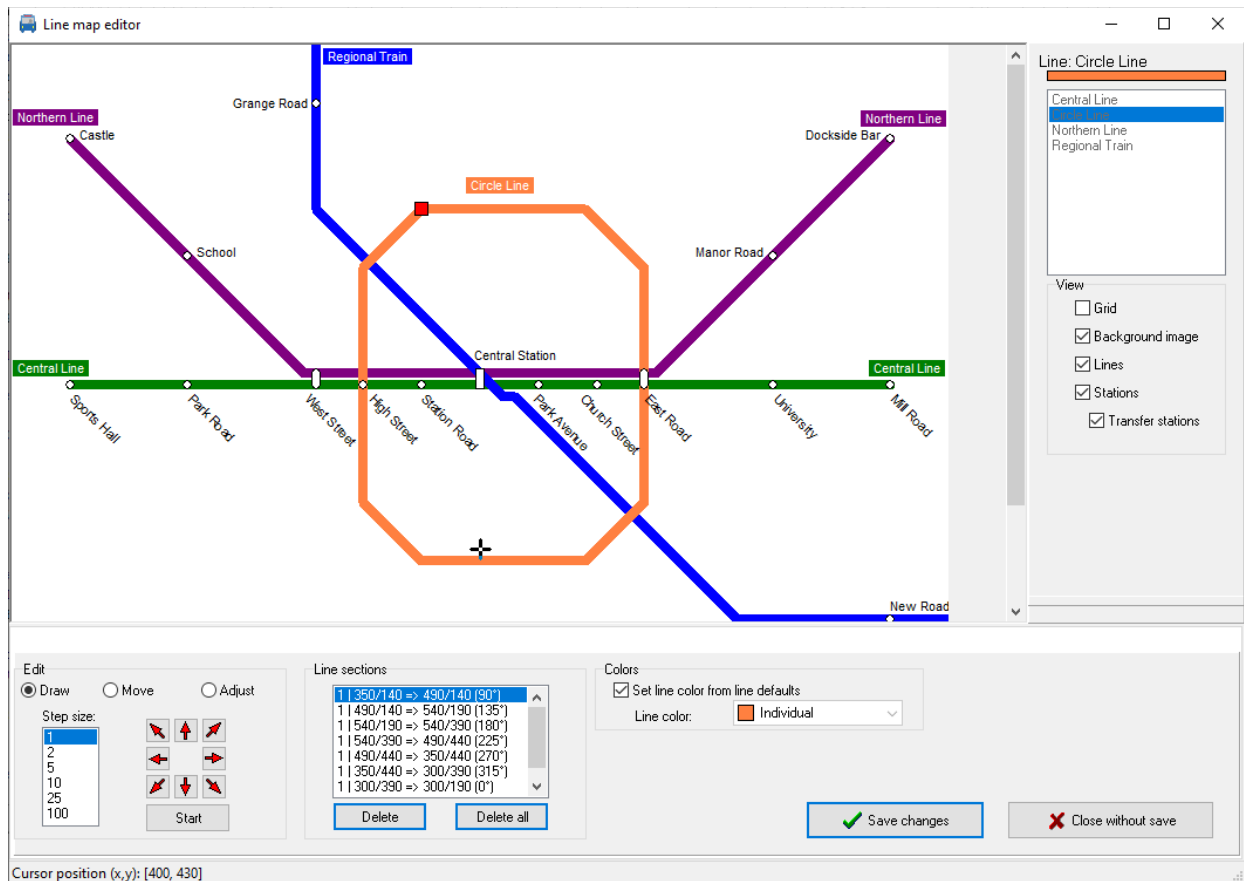


-  **Mode:**
  There are 3 different modes available for editing the lines:

  - **Draw:** In Draw mode, you can draw new line segments and delete existing segments.

  - **Move:** In the "Move" mode, you can move previously selected line segments. Stations positioned on the line segments are retained.

  - **Fit:** In the "Adjust" mode you can change the line network by reducing or enlarging individual line segments. Whether stations positioned on the line segments are retained depends on whether they can still be reconstructed after the adjustment.

- **Step size:**
  Specifies the number of pixels to move the cursor on each step. The step size will be multiplied with the grid width specified in the line map settings. A step size of 5 on a grid width of 10 moves the cursor for 50 pixels on each step.

-  **Start:**
  Depending on the selected mode, one click on the "Start" button will begin the selected action.

  - **Draw:**
    Click on „Draw start" to start to draw a line. Use the cursor keys to draw a line in the given direction. Moving backward over a drawn line will erase the line part.
    Click on „Draw end" to stop the draw mode („Draw start" will change to „Draw end" in draw mode).

If you move to another line segment of the same line while drawing the line, the cursor color changes. If you stop drawing here, the two line segments will be connected.

- ○ **Move:** By clicking the "Start" button you will start moving the previously selected line segments. Subsequently, pressing the arrow keys will move the sections in the corresponding direction.
A click on "Stop" ends the shifting.

- ○ **Adjust:** By clicking the "Start" button you will start to adjust the line at the selected line end. Subsequently, when pressing the two active arrow keys, the line will be reduced or enlarged in the corresponding direction. Normally connected line sections are moved accordingly. Exception: The line sections are connected to both ends of the current line section.
If you move to another line section of the same line while changing the line section, the cursor color will change.
A click on "Stop" ends the adjustment.
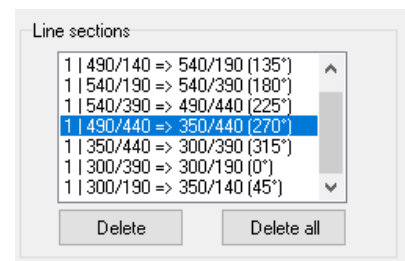
- • **Cursor buttons:**
Click one of the cursor buttons to move the cursor in the corresponding direction. In Draw mode you can also position the cursor directly with the mouse if you have not yet started drawing.

  💡 Notice: Use the red cursor buttons (see image) for a more precise positioning on the grid. This is essential for parallel lines with transfer stations.

- • 🔄 **Line sections:**
Line sections will be created on every change of direction of a line. Normally, a new section is created for each change of direction as well as for junctions and crossings. For each section the coordinates of start and end and the angle are displayed. Sections can be grouped and the first number specifies the section group. Sections may change when a line is saved.

  - ○ **Draw:**
When drawing, clicking on a line segment places the cursor alternately on the start position, the end position, and the middle position of the segment.
A click on the "Delete" button deletes the marked line segment. With "Delete all" all existing line segments are deleted.

  - ○ **Move:**
When moving, you select the sections to be moved.
Clicking the "Select all" button selects all line segments. Clicking the "Deselect All" button deselects all sections.

  - ○ **Fit:**
When adjusting, clicking on a line segment places the cursor alternately on the start position or end position of the segment.

Note in case you want to process the data later with the PTraffic Pro timetable software (see chapter 7 Compatibility):
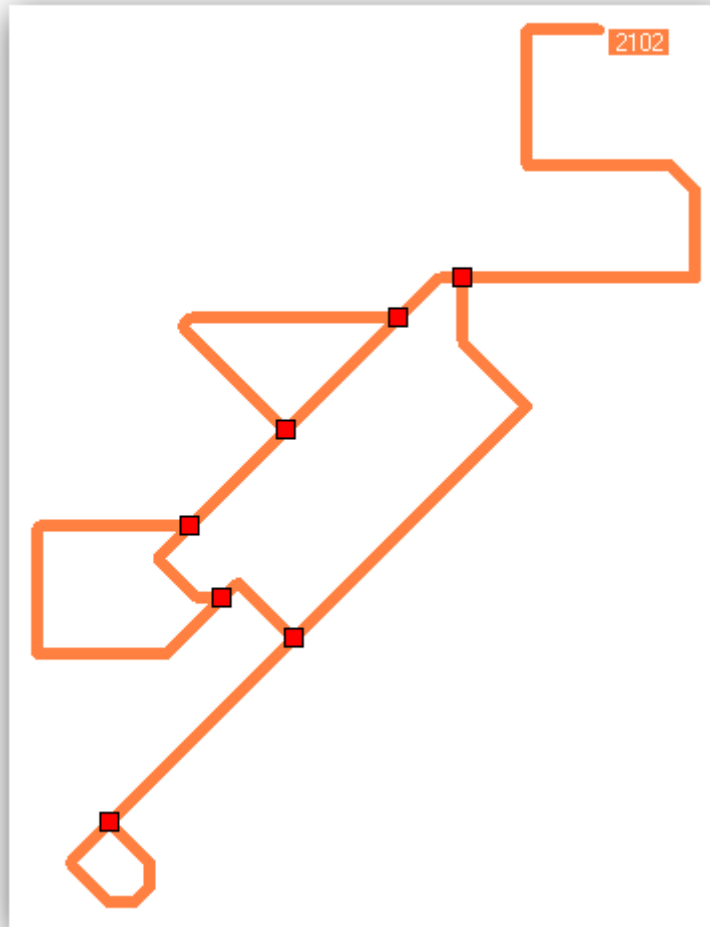


To run the simulation correctly it is important that connections are made very exact for lines containing branches.
After saving the line and re-opening it the connections found will be marked with a red square. If connections are not recognized due to imprecise positioning, they need to be re-drawn. Unidentified connections will cause the simulation to fail because of unrecognized connections.

If a vehicle rides back at the same line section the simulation can only find the path if a circle is drawn at the end of a line (see example above) or the station is at the end of a section and the vehicle turns into opposite direction at this point.
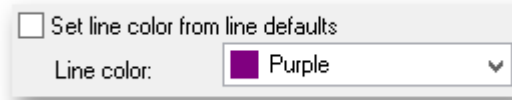
-  **Line color:**
Specify the line color for the current line or activate the check box „Set line color from line default" to use the default color specified in the line defaults for this line map.

- ↻ **Status bar:** When the cursor is visible, the current position (x/y coordinate) is displayed in the status line at the bottom left.

- ↻ **Save changes:**
All changes made to the selected line will be saved.
Individual sections are combined and, if necessary, the direction is swapped. In the case of changed sections, the station positions are adjusted as far as possible. If this is not possible, the stations must be repositioned.
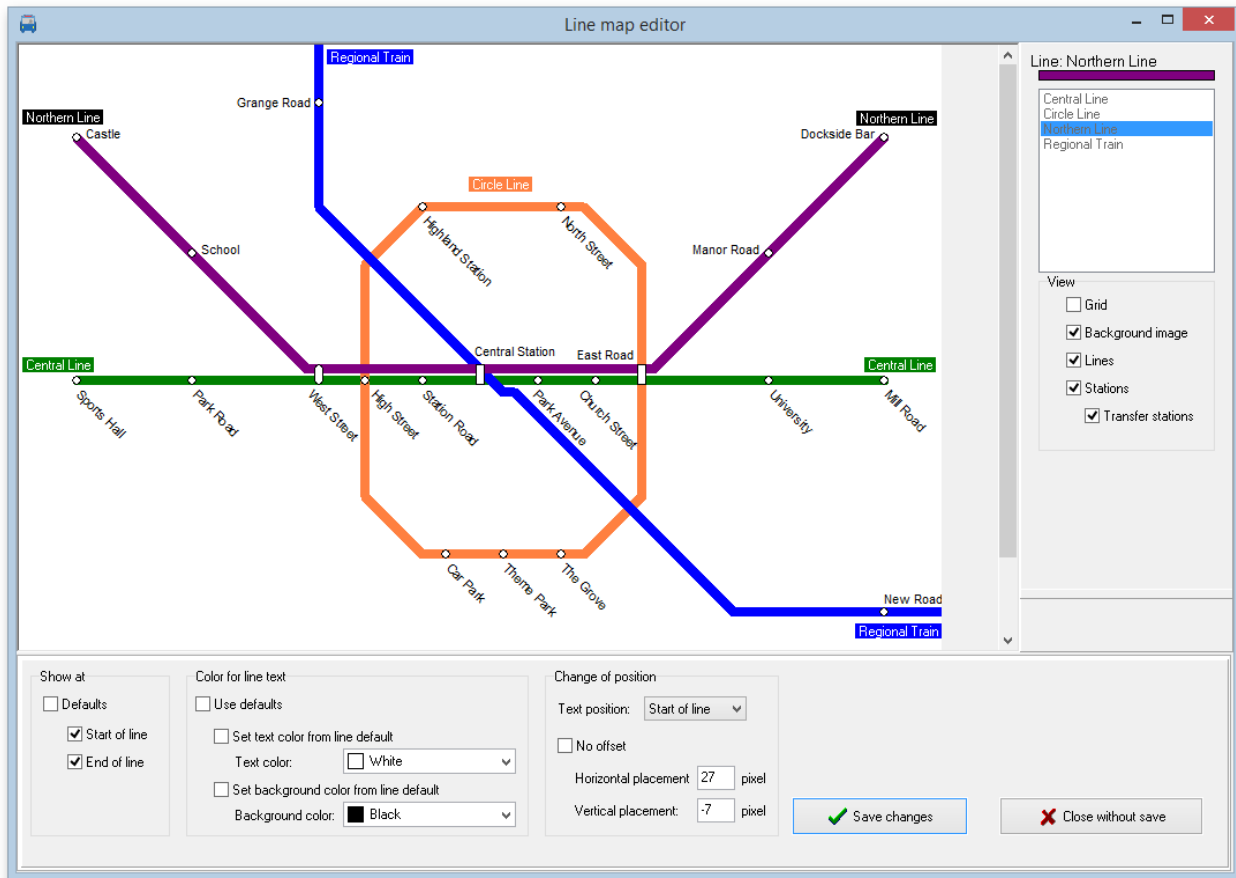
- **Close without save:**
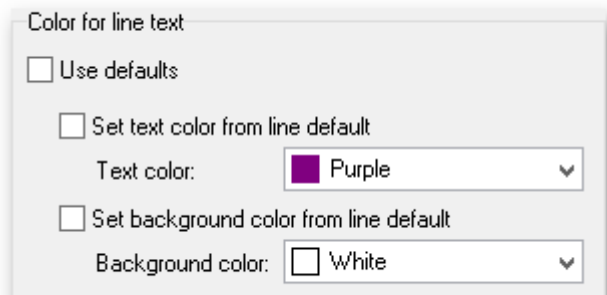All changes made to the line while editing will be discarded.

## 4.3.2. Edit line text

Select one of the lines in the selection window on right upper corner and click on „Edit line text" to change the text properties.



- **Show at:**
  You can display the line text and position a line text to the start and/or end of a line. Activate „Use defaults" to use the settings specified in the line defaults for the line map.

- **Color for line text:**
  Specify the color for text and text background. Activate the check box „Use defaults" to use the colors specified in the line defaults for this line map. You can also use the corresponding checkbox to apply the colors from the line settings (see chapter 4.2.2 Defaults for lines ).



- **Change of position:**
  Change the position of text on start and end of line individually. Check „No offset" to leave the text positioning unchanged or specify the text position offset in pixel.

  ↻ For more complex lines with branches or circular connections, the start and end position depends on when

the respective line segments were added. The position of the line texts may have to be moved to the appropriate position here.

### 4.3.3. Edit stations

Choose a line in the line selection window and click on „Edit stations" to position stations for this line.
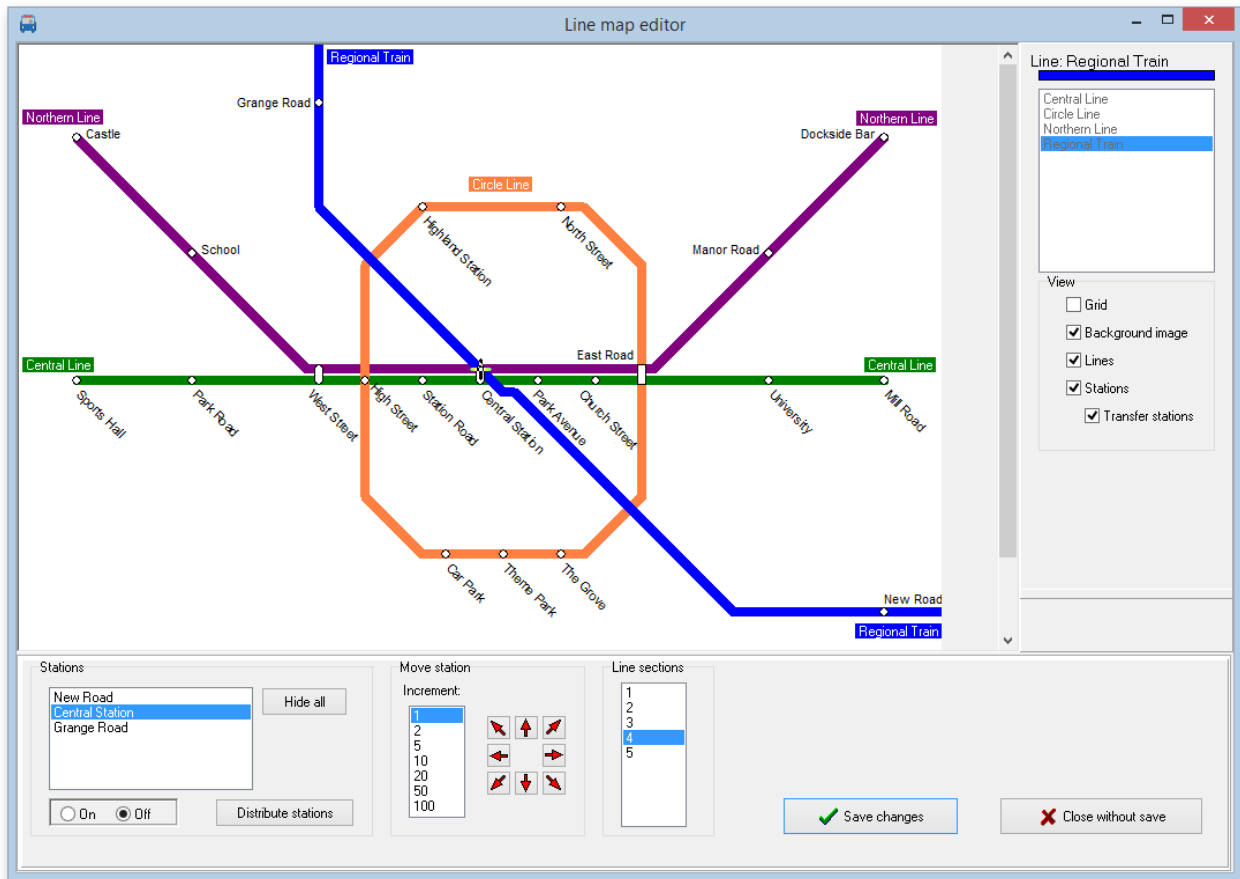


- **Station selection:**
  Choose a station in the station window on left lower side to edit station preferences.

-  **Show station:**
  You can choose to show or hide a station on the line.
  For stations with multiple occurrences along the same line the preferences are used for every occurrence of the station.

- **Hide all:**
  This button will hide all stations at once.
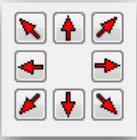
- **Distribute stations:**
  Click this button to evenly distribute all stations along the line. Already shown and positioned stations will not be changed.  This provides for a quick initial setting of stations on the line.

- **Step width:**
  You define the number of pixels the cursor moves in one step. This setting will be multiplied by the grid width from Common defaults. Example: Step width of 5px and a grid width of 10px will move the cursor 50px per step.
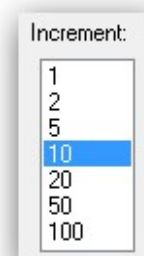
- **Cursor buttons:**
  Using this button moves the cursor and also the selected station. The cursor only moves along the actual line section.
  For stations with multiple occurrences along the same line the position is used for every occurrence of the station, thus only one position per station is supported.
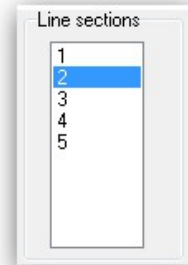
- **Line section:**
  Choose the active section of the currently active line. Changing the active section will position the selected station in the center of the section chosen.
  When clicking on a line segment, the cursor is placed alternately on the start position, the end position as well as the middle position of the segment.

- **Individual text positioning:**
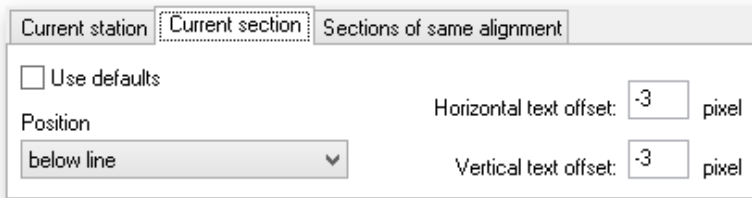
  Define individual positioning for the station text at the active line. You can choose to change the individual positioning for the active station, the active section or for all sections with the same direction.
  To set individual position data first deselect „use default" check box and change your preferred settings.
  Priority order is „actual station", then „actual section", then „sections with same direction".
  If nothing is specified here the default settings for the line are used.

- **Save changes:**
  All changes made to the selected line will be saved.

- **Close without save:**
  All changes made to the line while editing will be discarded.
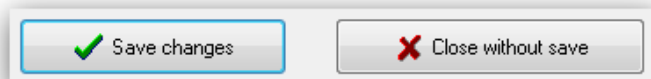
## 4.3.4. Transfer stations

Click on „Transfer station" to change preferences for stations with transfer capabilities. This are all stations on more than one line.



Please note that some default settings for transfer stations may have a higher priority than the specifications for an individual one and thus changes made here may have no effect.

The **"Round symbol for station on the same position"** setting ensures that the font formatting for "normal stations" and a round station symbol are used for the stations concerned.

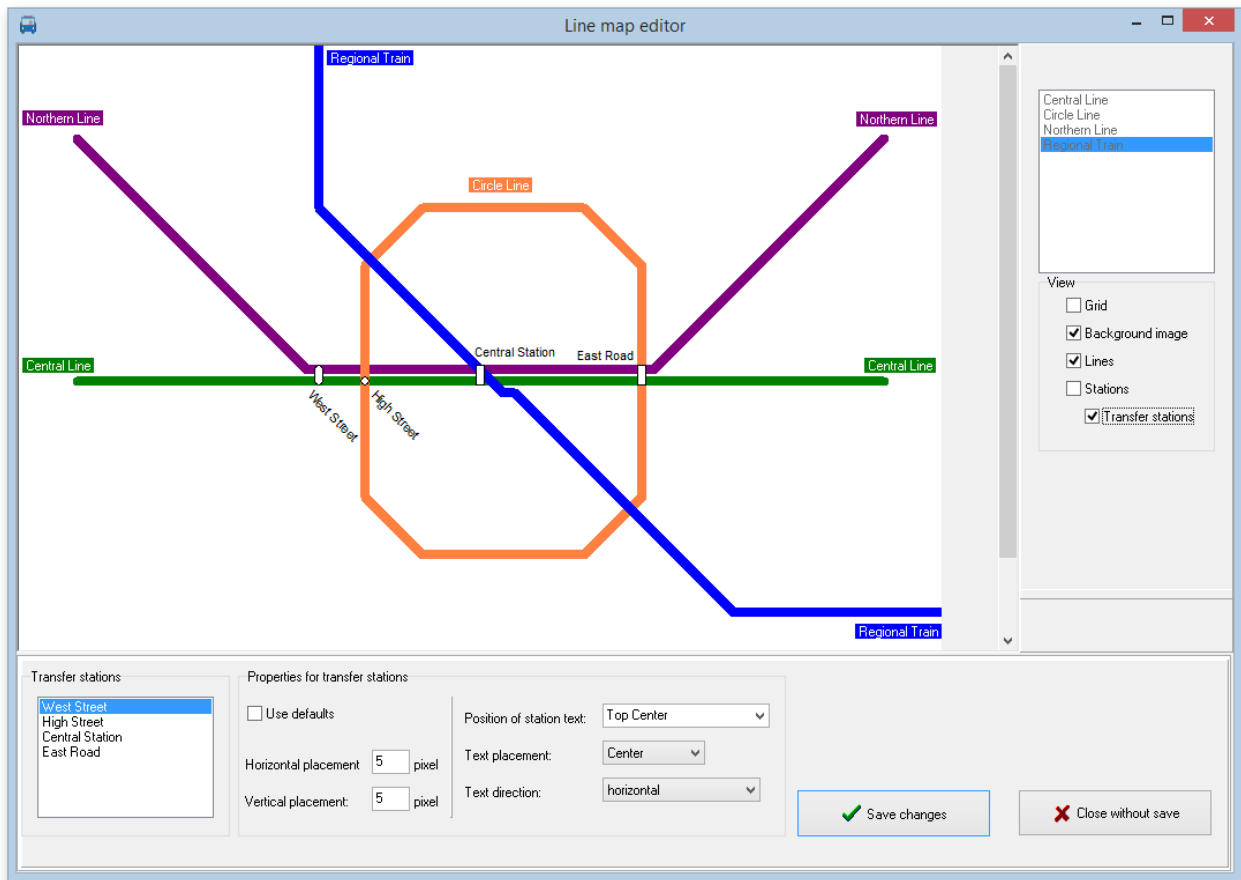If the setting **"Apply text alignment, text direction and text spacing from line settings"** has also been selected, the settings of the associated line will be used. Since several lines contain the station, it may be necessary to try out which line is responsible for the station.

If the setting **"Rounded symbol for parallel lines with stations in the same level"** is activated, the settings from the line settings are adopted for the stations concerned. Which line is relevant for this is again determined from the default settings in the "Stations" tab under "Position to line". For example, with the setting "above" for horizontal lines, the line settings of the uppermost line are used, with the setting "below" the settings of the lowest line are used.

- **Station selection:**
  Select a station in the station list window.
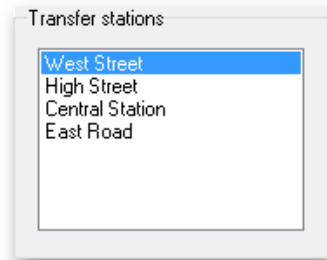
- **Use default:**
  To activate individual settings for the selected transfer station this check box must be unchecked.

- **Offset:**
  You can shift the station text horizontal and vertical. Use negative numbers for opposite directions.

- **Text position:**
  This is the position of station text related to the station symbol.

- **Text alignment:**
  Define the text alignment for station text. This can be freely chosen for text positions „Upper middle" and „lower middle".

- **Text direction:**
  Choose the direction of the station text. The possible selections depend on the selections of Text position and alignment.

- **Save changes:**
  All changes made to the selected line will be saved.

- **Close without save:**
  All changes made to the line while editing will be discarded.

## 4.4. Line map output

Using the output module your route maps created using the line map editor

*LineMap Draw c*an be scaled, saved and printed. Select your line map and press the button "Line map output".
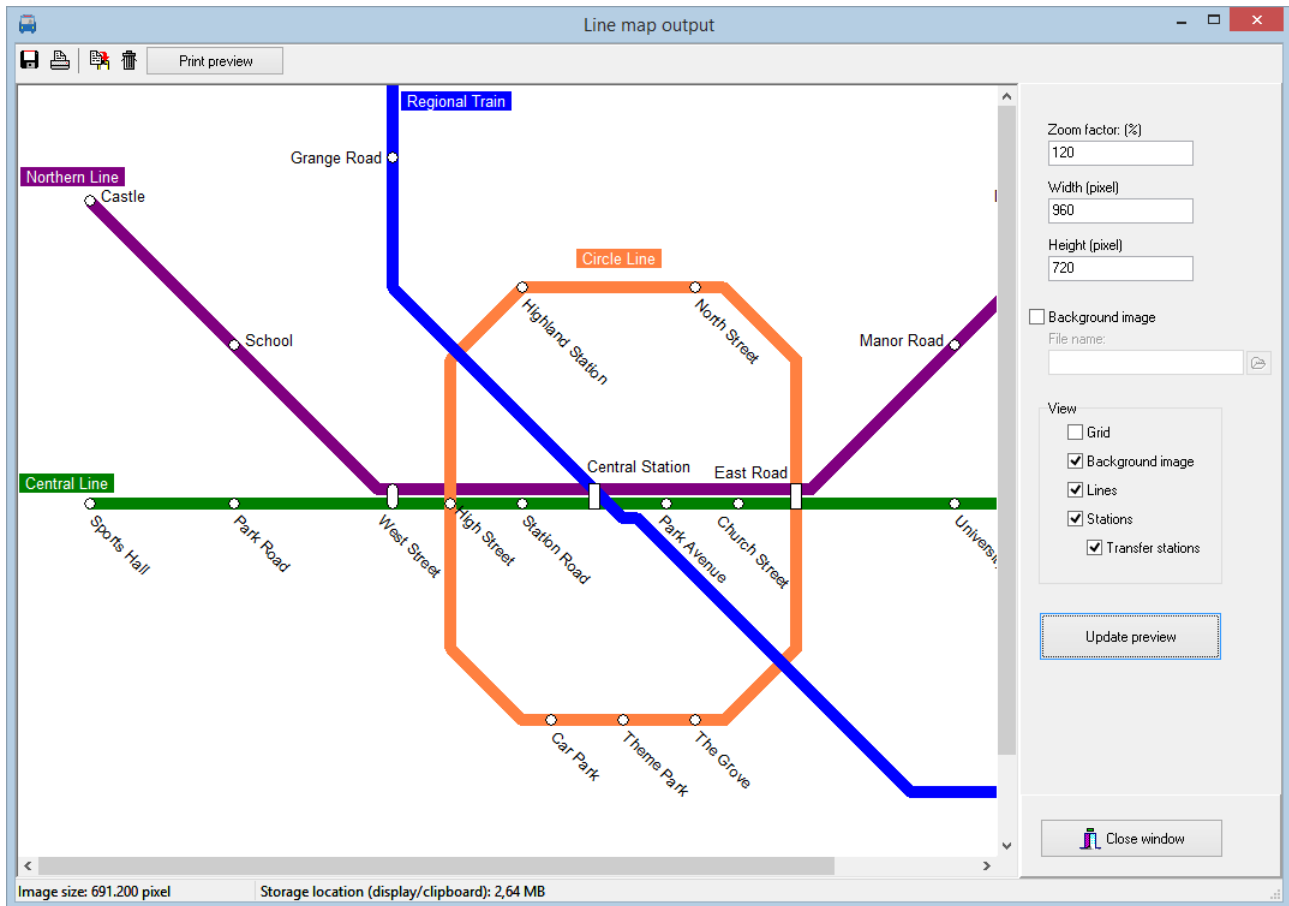


The output module of *LineMap Draw* has the following options:

- Changing the size (scaling) of the line map.

- View or hide elements of the line map from display.

- Copy the line map into windows clipboard for further processing with other software like image editing programs.

- The line map can be saved as image file.

- The line map can be printed.

### 4.4.1. Line map scaling

Line maps can be scaled in size. During this process the line map is redrawn in the required size and text size is adapted too.

Note: Bitmap fonts cannot be scaled without loss of quality. In case of quality problems please try to use other fonts.

To change the output size, you can use a zoom factor, width or height. Changing one value will automatically adapt the other values to keep the
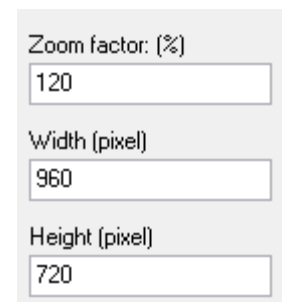
proportions.

## 4.4.2. Background image

You can add a background image to the output. The image must be available in Windows Bitmap (BMP) format.

If you defined a background image at creation of the line map you can change the image here. The background image is not included in the scaling process thus it may be required to have a background image of the desired size.

## 4.4.3. View options
View options can be used to show or hide elements from the line map output. As example a line map showing only transfer stations can be created. The grid is hidden from the output by default since the grid is supposed to be used for easier drawing.

## 4.4.4. Update the preview
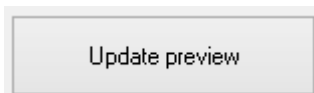
Click the button „Update Preview" to show the updated line map using the changed view options. The line map is then ready to be printed, stored or copied to the clipboard.

## 4.4.5. Save the line map

Click the save icon to save the line map in JPG or BMP format.

## 4.4.6. Print the line map

Click the print icon to print your line map. Please note that higher resolution is required for printing and select your image size accordingly. We suggest using 3508x2480 pixels for printing of an DIN A4 (297x210mm) wide paper at 300dpi.

### 4.4.7. Print preview

When printing you will first get a print preview where you have several options to control your printed line map.
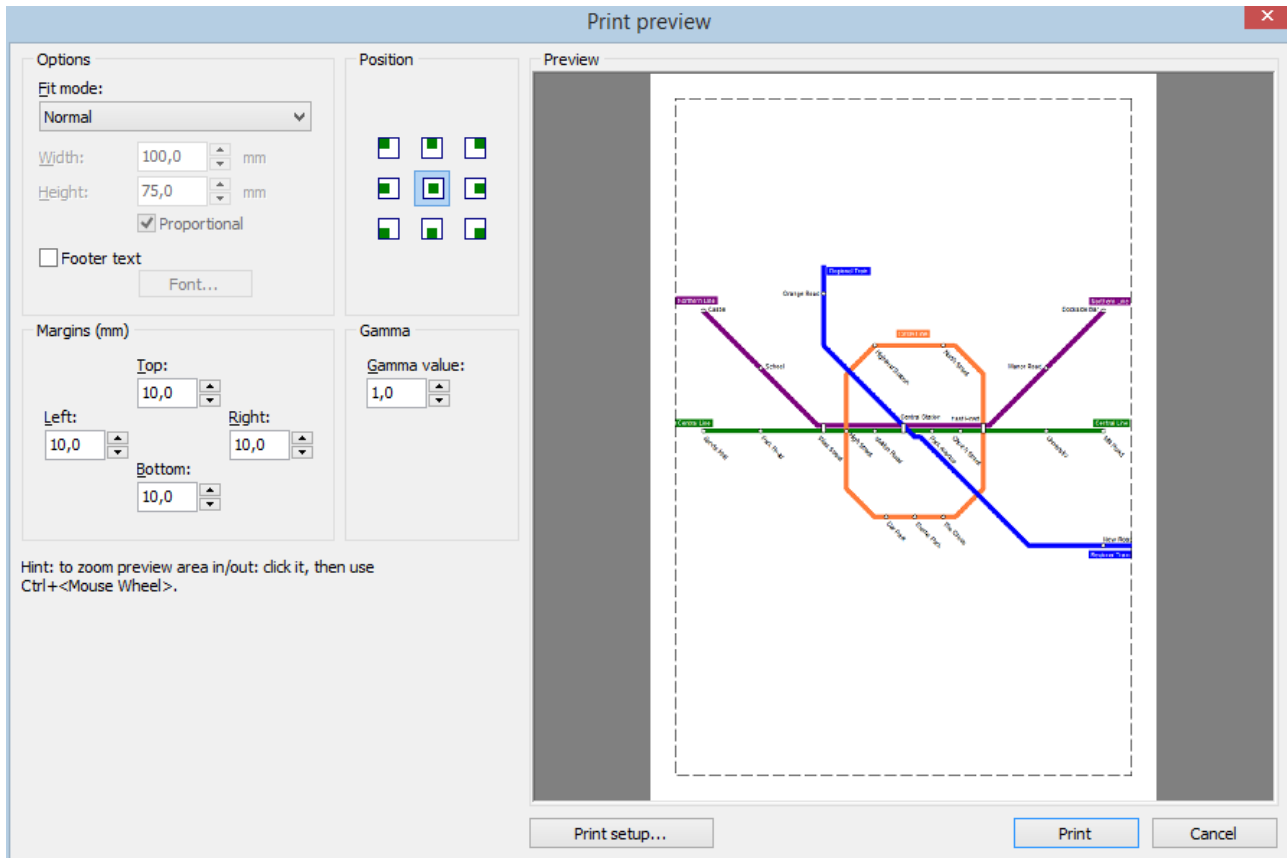


The right side shows a preview of the page. If you hold down the <CTRL> key or the left mouse button, you can zoom in and out with the scroll wheel of your mouse.

You have the following options to adjust the printout:

**Options**

- **Fit mode**
  You can specify how the graphic should be adapted to the page size:

  - **Normal:** The graphic will be printed in ist original size. If the graphic is too large for the page the graphic will be adapted to the page size

  - **Best fit to page:** The graphic is scaled to page size but retains the proportions (width to height ratio).

  - **Stretch to page:** The graphic is scaled in height and width to page size. Proportions may be changed to fit the image to the page size.

  - **Custom size:** The user can determine the size of the printout. You can set whether the proportions are maintained.

- **Footer text**
  Here you can specify whether the name of the line map plan is to be printed in the footer. In this case, the font type and size can also be specified.

**Position**

The alignment of the graphic can be set here. The effect of the selected alignment depends on the Fit Mode settings. With Stretch to page, for example, the position is not relevant because the graphic is always zoomed to the entire page size.
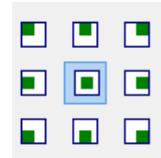
**Margins**

Under Margins (mm), the margins can be adjusted individually in millimeters for all 4 sides.

**Gamma**

Here you can change the gamma value. The gamma value describes the contrast ratio (i. e. the contrast from light to dark). Normally, the default value of 1.0 does not need to be changed. An overview of gamma correction can be found under https://en.wikipedia.org/wiki/Gamma_correction

**Printer Setup**

Here you can select another printer and make various printer settings such as print size and orientation (portrait or landscape).

**Print**

Press the Print button to print your line map.

**Cancel**

By pressing the Cancel button, you can exit the print preview window without printing the line map.

### 4.4.8. Copy the line map

Click at the copy icon to copy the line map into the clipboard. The image can then be inserted into other software for further use.

### 4.4.9. Delete preview

Click at the delete icon to delete the preview. Deleting the preview frees working storage that can be a remarkable amount of memory.

An image with a size of 10.000x10.000 pixels require 400MB of memory. A copy into the clipboard additionally requires the same amount of memory. Inserting the image into another Software uses again memory of adequate size. Deleting the view will free the memory used by *LineMap Draw.*

💡 Hint: To save additional memory you can delete the line map image from the clipboard if this is no longer used. To achieve this, copy the already deleted image again into the clipboard to clear it.

# 5. Browser-Applications

*LineMap Draw* 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.

↻ 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.

- **Line Maps**
  Display the created line maps

## 5.1. How to make projects available on the internet

You can use PublicSQL and JavaScript to create your own Web-Applications for your *LineMap Draw* 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.
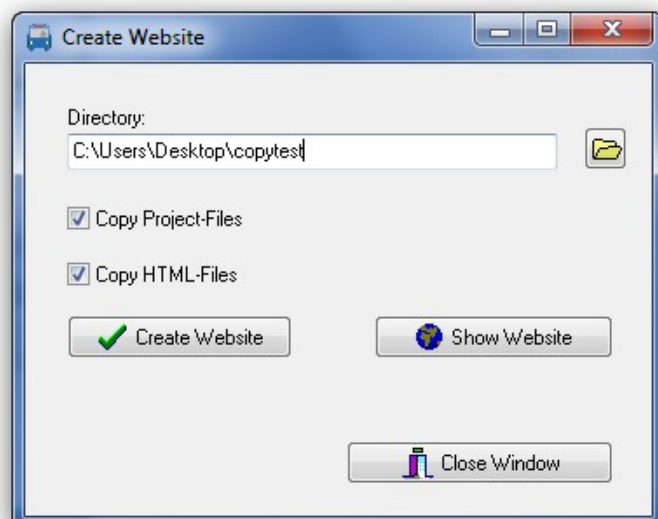
Publishing your website at the internet requires you to use a FTP program outside of PTraffic. Copy the complete folder including the sub-folder „images" to your web-server.

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 „LineMapDrawView" contained in the program installation directory of *LineMap Draw*. You might eventually use the search function of Windows ® to locate the installation directory of LineMapDrawView.

## 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 *LineMap Draw* 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 chapter 5.1 Compatibility ).

### 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 complete data model is shown in the additionally installed PDF files named „PTraffic Pro Data Model".

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

# 7. 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.

# 8. More Information

This product uses the component "ATPrintPreview by Alexey Torgashin", freely available under the Mozilla Public License 1.1.
Author's page: https://sourceforge.net/projects/atviewer/files/
Page of the Mozilla Public License 1.1: https://www.mozilla.org/en-US/MPL/1.1/

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.

For more information please visit our homepage at http://www.en.ptraffic.net.