MORE
Multimodal Optimisation of Roadspace in Europe

## Deliverable D.4.6

# TOOLS FOR STAKEHOLDER ENGAGEMENT IN STREET DESIGN

| | | | |
|---|---|---|---|
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# Contents

1. AIMS OF THE TOOLS ..... 2
2. GENERAL STRUCTURE OF THE TOOLS ..... 4
3. HOW TO USE THE SOFTWARE TOOLS ..... 10
4. HOW THE TOOLS WERE TRIALLED IN THE MORE CITIES ..... 11
5. TOOL REFINEMENT ..... 12
6. EXPLOITATION OF TOOLS ..... 16
APPENDIX A: TRAFFWEB STAKEHOLDER TOOL GUIDE ..... 17
APPENDIX B: LINEMAP TRAINING GUIDE ..... 39

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# 1. AIMS OF THE TOOLS

An important component of MORE is the use of extensive stakeholder engagement, to encourage the co-creation of design options in each of the case study areas.

Buchanan Computing (BC) has developed two software tools, based on enhancements of its Traffweb and LineMap software, to provide cloud and web-based engagement tools. In addition, UCL has developed a physical Street Layout Toolkit, using blocks and acetates.

Stakeholder engagement consists of three types of consultation:

- **Issue Consultation**: collect issues, suggestions and comments regarding the current situation within the study area, using Traffweb.
- **Design option development**: co-creation workshops, using blocks and acetates, to generate design options, for wider consultation and assessment, then imported into LineMap, where professionals can refine designs.
- **Design Consultation**: feedback on design(s) for the improvement of the study area, using Traffweb.

The **Street Layout Toolkit** facilitates the street design process, by:

1. Illustrating the kinds of street design elements that might be included in the designs
2. Enabling design group members to explore different design options for a section of street
3. Ensuring that the designs are technically feasible, as the design elements are drawn to scale

**Traffweb (**www.buchanancomputing.net/traffweb), the web-based component allows cities to:

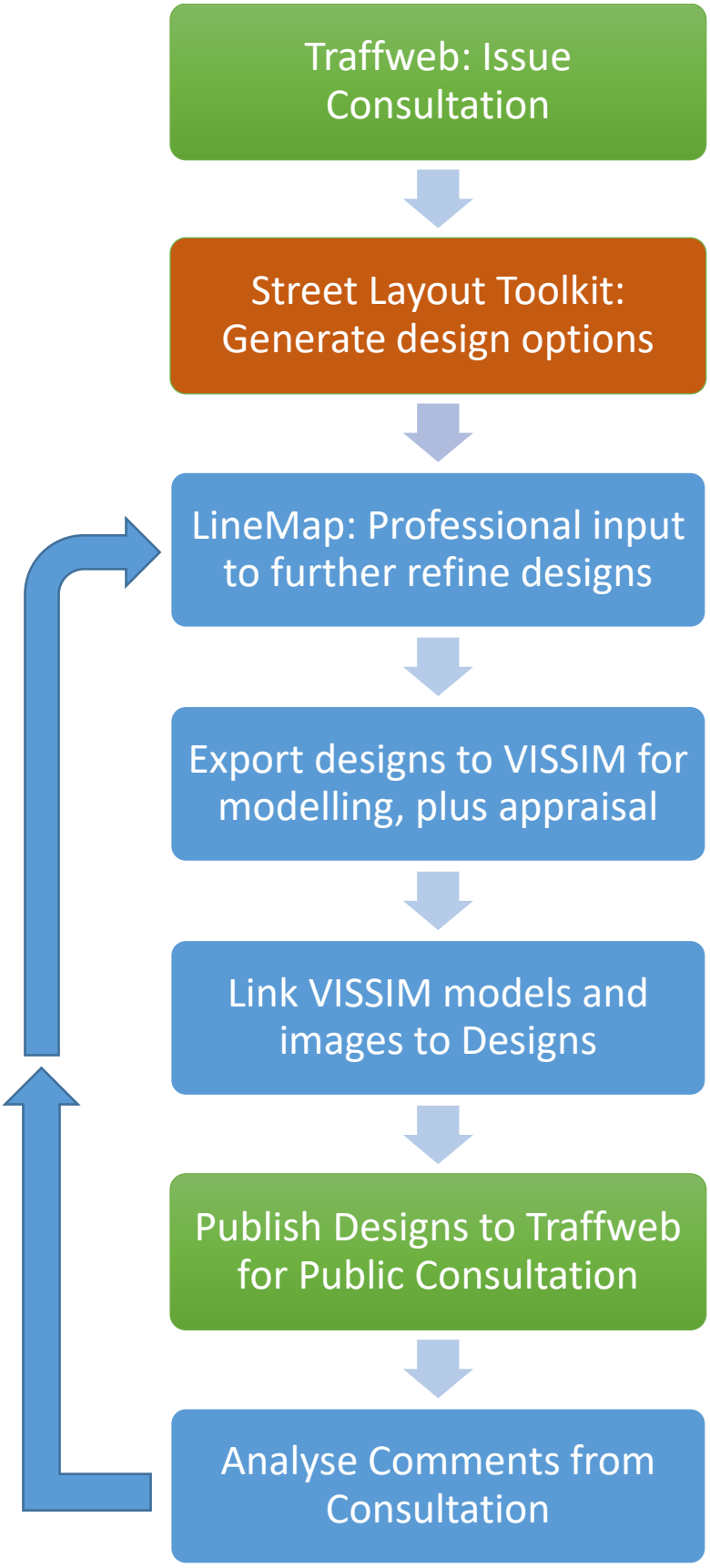
1. Collect data from stakeholders relating to issues and feedback during Issue Consultation.
2. Collect data from stakeholders relating to designs and feedback during Design Consultation.
3. Provide feedback on stakeholder engagement via a secure interactive dashboard and downloadable reports

**LineMap (**www.buchanancomputing.net/linemap), the cloud based design component:

1. Allows city designers to create digital representations of improved road space designs. These designs can then be:
    a. Printed onto paper for use in Local Workshops
    b. Published to Traffweb for online Design Consultation
2. Allows the digitisation of paper designs created during Local Workshops
3. Allows the definition of study area extents and definition of the feeder route on a map display
4. Has the ability to define road space as road markings or coloured blocks (replicating the physical street design tool)

The figure below sets out the overall stakeholder engagement process.

## The Stakeholder Engagement Process

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# 2. GENERAL STRUCTURE OF THE TOOLS

The **Street Layout Toolkit** is used to co-create street design options with a wide range of stakeholder groups.

- Inputs:
  - Street design brief, including feedback from Issue Consultation
- Outputs:
  - Annotated physical design options using coloured and shaped labels

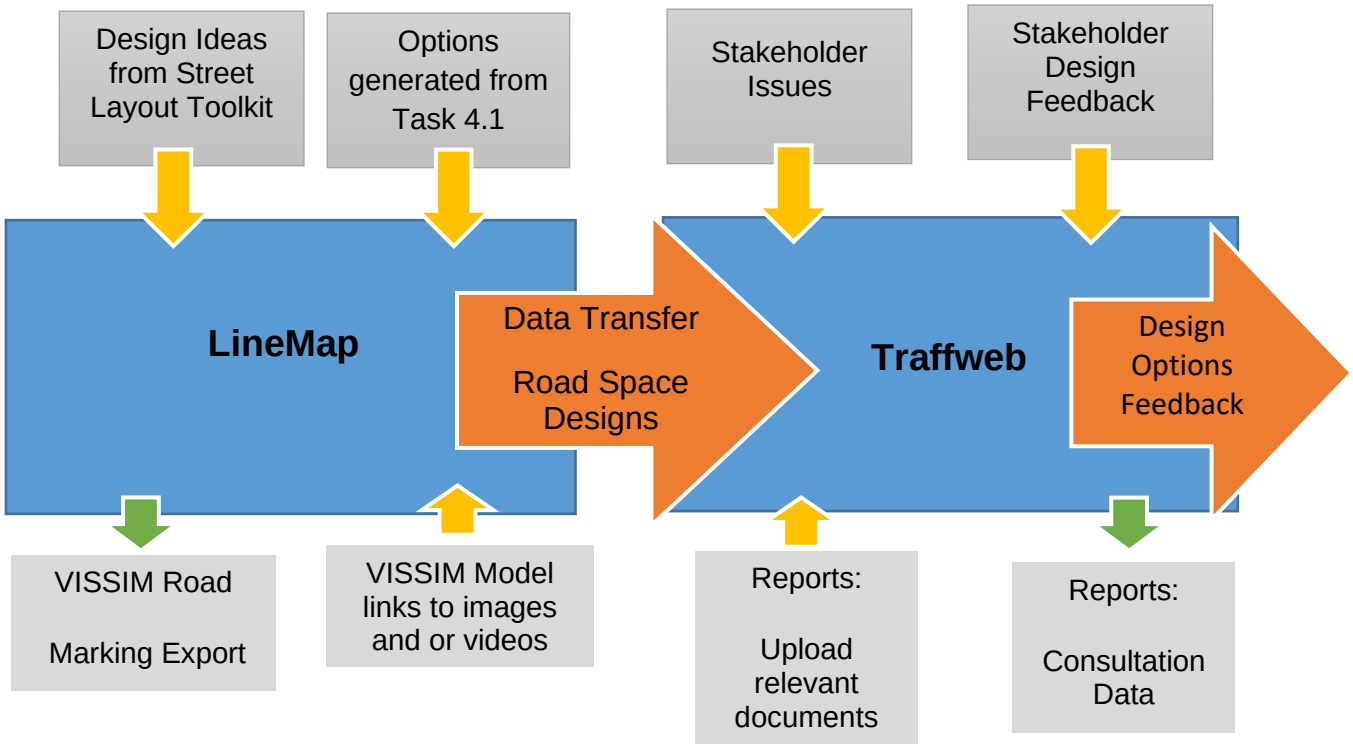
**LineMap** is used to create and enhance design options by city designers and other professionals.

- Inputs:
  - Outputs from Street Layout Toolkit
  - Street design brief, including feedback from Issue Consultation
  - Options generated in MORE Task 4.1
- Outputs:
  - Digital design options, displayed as road markings or as coloured blocks

**Traffweb** is used for stakeholder engagement during Issue and Design Consultation phases.

- Inputs:
  - Design Options created in LineMap
- Outputs:
  - Design Options available for comment and feedback
  - Study area available for comment and feedback

The figure below summarises the main inputs and outputs for the stakeholder engagement tools:

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**Other Inputs:**

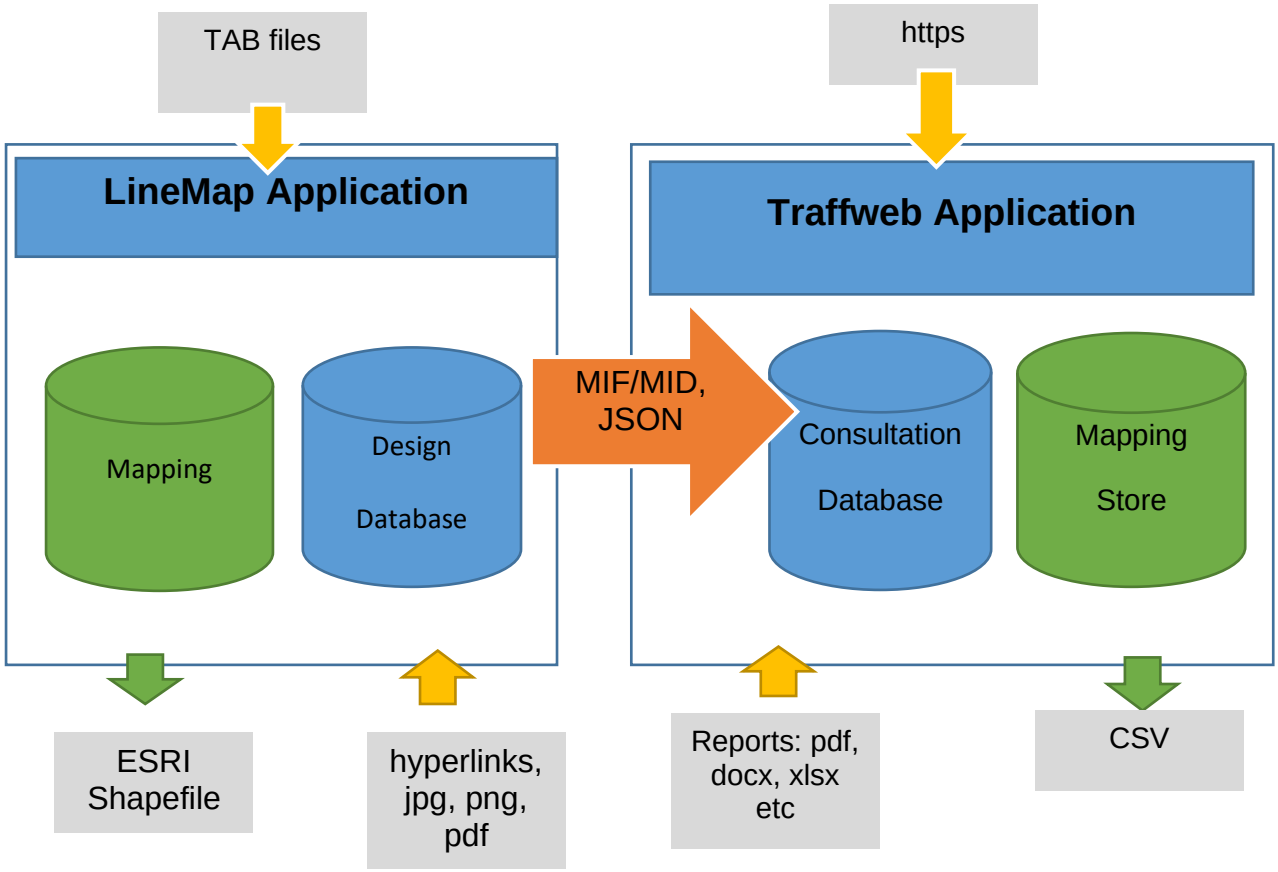
- Stakeholders needs and requirements:
  - Multi city mapping
  - Multi language
  - Issue data collection
  - Reporting tools
- Cater for all user types:
  - Public Stakeholder
  - City Designer
  - City Administrator
- Dataset Requirements:
    - Open Street Map
    - Large Scale City Mapping
    - Common Issue Categories
    - Common Time of Day
    - Road space Use Types
- Nominated City Designers

**Establish requirements for stakeholder engagement:**

- Study Area Boundary
- Target Stakeholders
- Consultation Period
- Detailed (Large Scale) Mapping and copyright
- Points of Interest or Street Gazetteer
- Route Overview: Static Image or Data
- Legal and GDPR notices:
- Accessibility
- Privacy
- User Form: Email, Name and Postcode can be mandatory – further fields available, but there is the need to consider GDPR for personal information
- Google Street View Locations
- Street level Photos at key points in the area
- Design Level Users: Name and email
- Project Description for Landing Page
- Site Translation

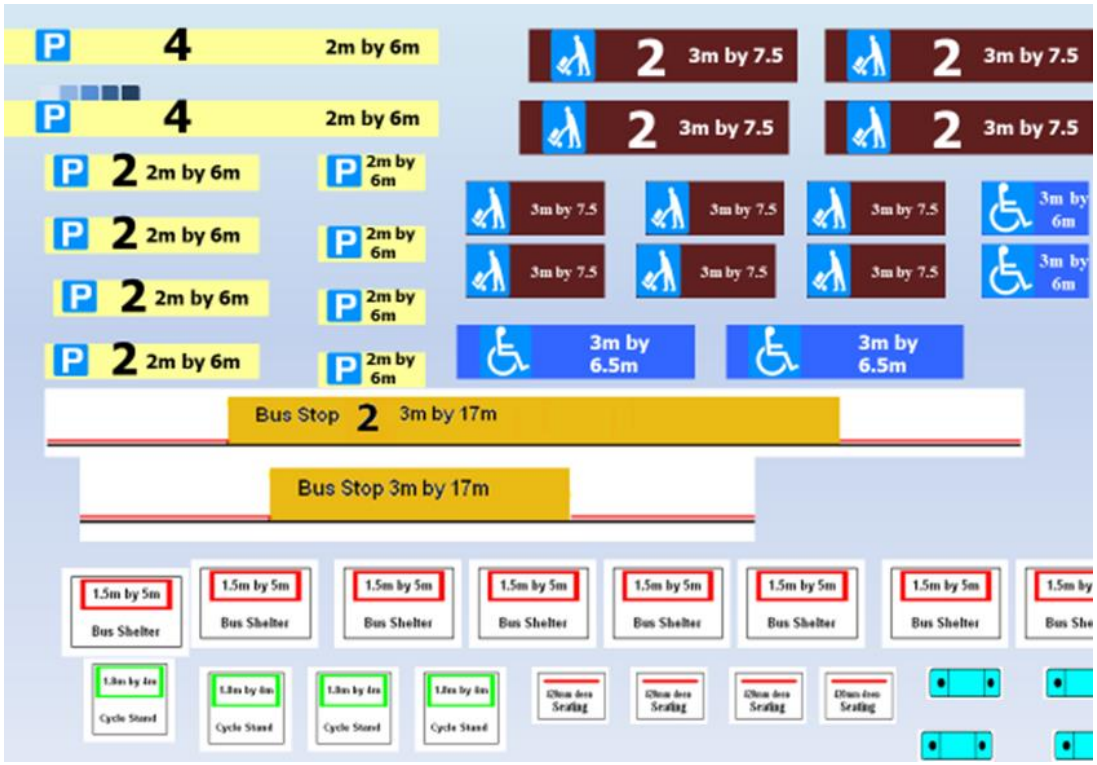
**Determine data formats required for information exchange:**

The following diagram outlines data and document formats for the two software tools, as well as relevant protocols required by various inputs and outputs.


TAB files
https
LineMap Application
Traffweb Application
Mapping
Design
Database
MIF/MID,
JSON
Consultation
Database
Mapping
Store
ESRI
Shapefile
hyperlinks,
jpg, png,
pdf
Reports: pdf,
docx, xlsx
etc
CSV

**The street Layout Toolkit** consists of:

- A plan of the street design exercise area, at 1:200 scale
- A box of component blocks representing street design elements
- A set of acetates for the larger street design elements, or those that cannot be represented using straight line blocks
- A set of sticky labels, to replace the blocks once the design exercise has been competed



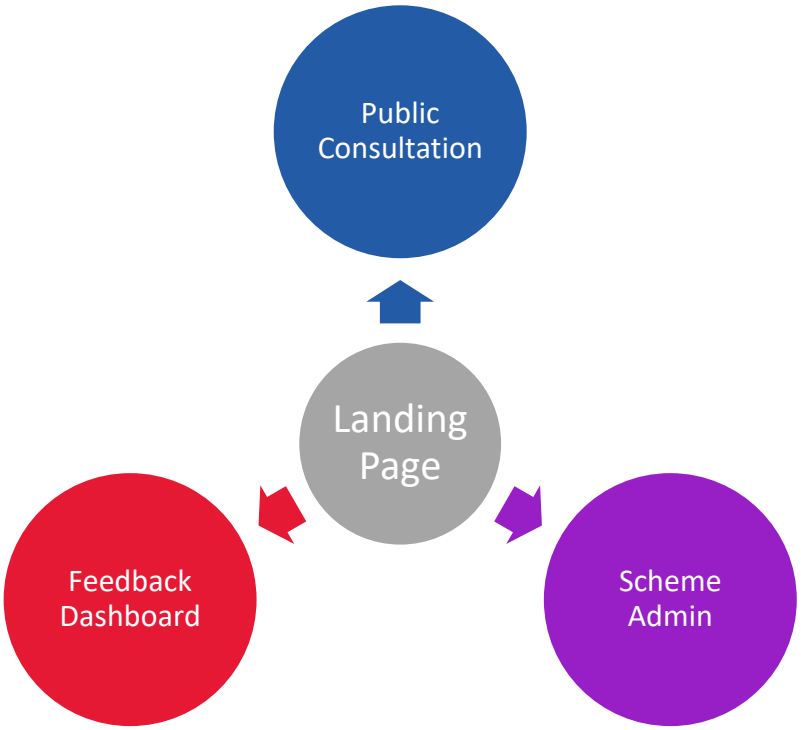
**Traffweb** consists of a web address:

- https://www.moreconsultation.eu

Each city has its own dedicated site:

- https://www.moreconsultation.eu/london/
- https://www.moreconsultation.eu/lisbon/
- https://www.moreconsultation.eu/budapest/
- https://www.moreconsultation.eu/constanta/
- https://www.moreconsultation.eu/malmo/

Within each site are the following public and private pages:



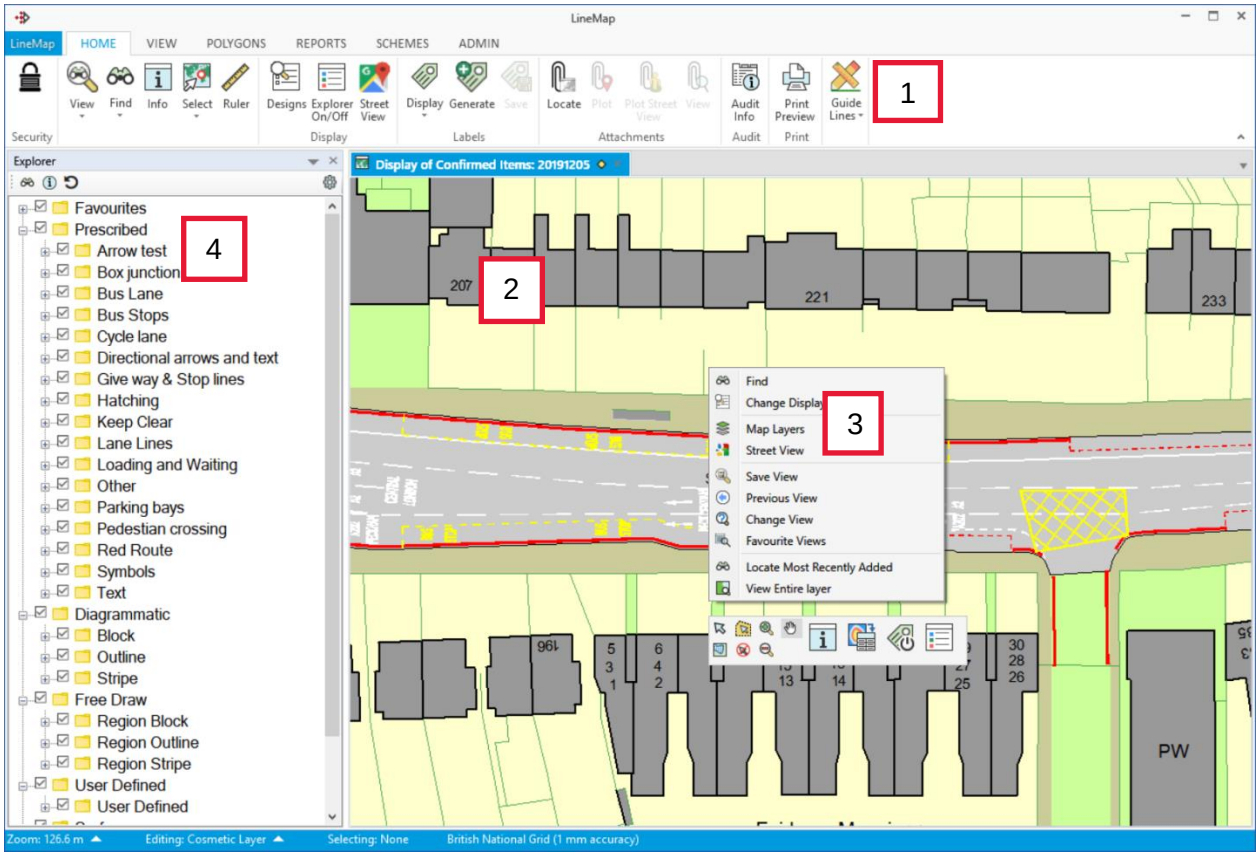
**LineMap**

The LineMap application is hosted in the BC Cloud and provided as Software as a Service. The application can be accessed via any modern browser. For access to this tool, each city has two generic logins. The application is accessed via a url:

- https://buchanancloud.net

Once logged in all LineMap functionality is accessed via a single Ribbon and Map based interface:

1. Ribbon menus
2. Interactive map
3. Mapping shortcut menu
4. Road Marking Explorer




The map interface enables designers to digitise design options and publish them to Traffweb, as well as export to VISSIM.

# 3. HOW TO USE THE SOFTWARE TOOLS

- For details of how to use Traffweb see Appendix A Traffweb Stakeholder Tool Guide
- For details of how to use LineMap see Appendix B LineMap Training Guide

# 4. HOW THE TOOLS WERE TRIALLED IN THE MORE CITIES

The tools were trialled by means of a pilot study:

| Stage |
|---|
| **A Traffweb Issue Consultation (Complete – piloted by Transport for London):** |
| 1. A single city was selected as the pilot for Issue Consultation to test Traffweb: |
| 2. A stakeholder engagement was conducted on the area as a staged event. |
| 3. Any initial issues were fed back to Buchanan's and rectified ASAP |
| 4. Further stages of the engagement were conducted. |
| 5. Stakeholder comments concerning the tool itself were collected. |
| 6. A meeting decided what changes or improvements were required. |
| 7. Improvements were rolled out. |
| 8. A requirements list for Issue Consultation was issued to remaining Cities |
| 9. Traffweb Issue Consultation was rolled out to all Cities. |
| **B LineMap Design Consultation:** |
| 1. A single City was selected as the pilot for Design Consultation to test LineMap and Traffweb. |
| 2. Design Options were created by City Designers, supported by Buchanan Computing. |
| 3. Any initial issues or were fed back to Buchanan's and rectified ASAP. |
| 4. Local Workshops were conducted to test the digitisation of Road Space blocks. |
| 5. Final issues were resolved. |
| 6. Designs were published to Traffweb for a Design Consultation over a fixed period. |
| 7. Stakeholder comments concerning the tool itself were collected. |
| 8. A meeting decided what changes or improvements were required. |
| 9. Improvements were rolled out. |
| 10. A Final Requirements list for Design Consultation was issued to the remaining Cities |
| 11. LineMap was rolled out to all Cities. |
| 12. All systems went live and were maintained under support |
| 13. Any training required was conducted remotely for each city |

Any issues, improvements or enhancements required beyond this point were dealt with via technical support and a series of meetings where partner cities suggested a list of enhancements.

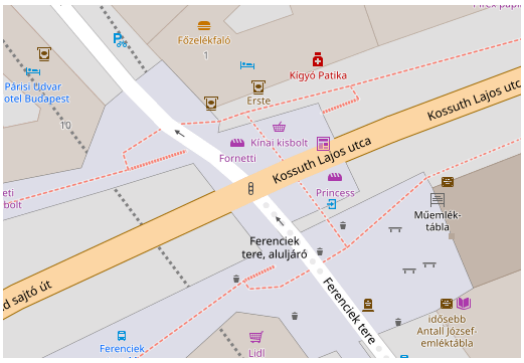
# 5. Tool refinement

This section looks at how the software tools were improved based on feedback from the five partner cities regarding the stakeholder engagement experience.

**Traffweb**

The following list of enhancements and improvements were made to Traffweb for issue and design consultation:

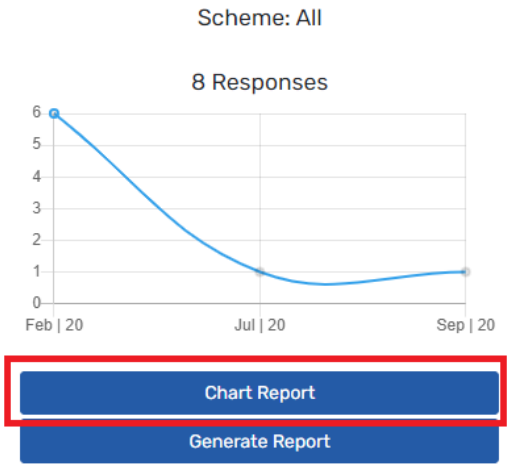
1. Base maps were updated where improved mapping was available as some stakeholders found locating themselves on the map and relating this to their surroundings difficult. OpenStreetMap was used where mapping from the cities could not be easily sourced as it displayed features such as cafes and restaurants:



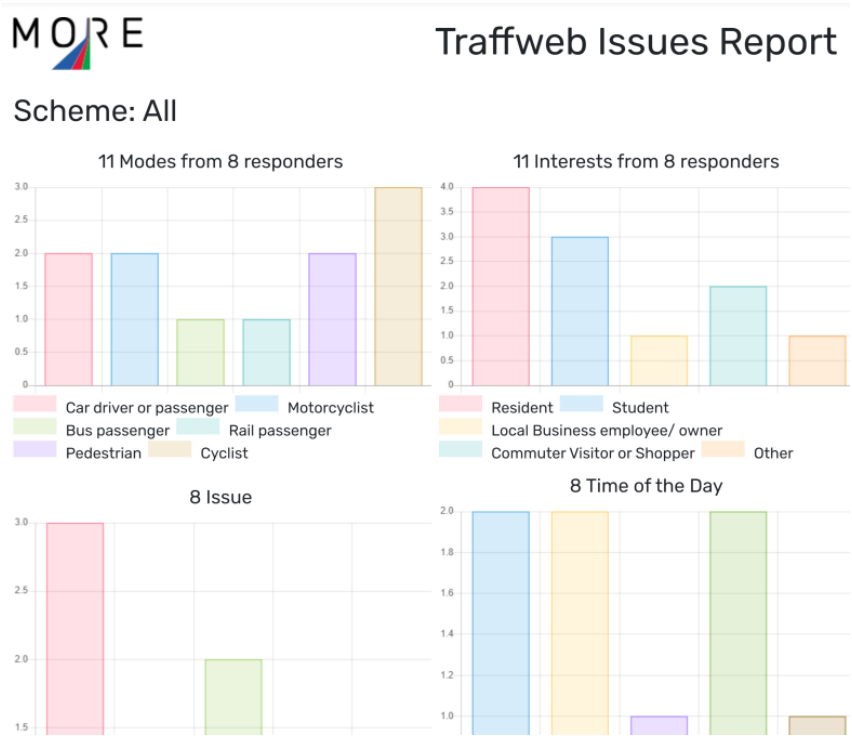

Additional details were added such as the station symbol to aid users in locating landmarks:

2. When conducting surveys in Traffweb, on completion of the survey Traffweb would display a map of all recorded issues within the study area. It was noted that for on street surveys this led to an increased number of steps to reset the survey for the next participant. The step of displaying issue results was removed from the process.

3. Cities found dashboard reporting very helpful but wanted to be able to download the charts and graphs as a report. A Chart report was added to the dashboard:




Clicking on the button highlighted above will download a pdf report of all charts on the current tab:

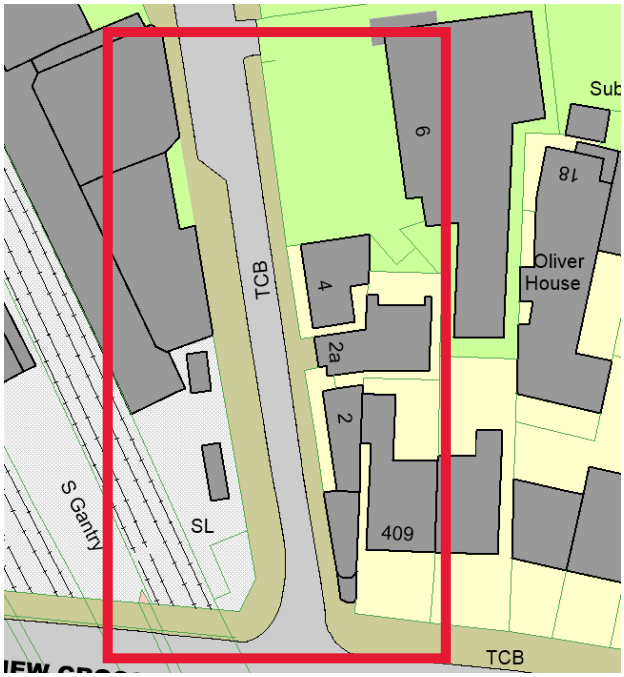


4. Some users reported it could be difficult to start the engagement process from the landing page. If the introductory text was too long, the 'Begin' button could be scrolled off screen. This varied from city to city and the type of device used. The page was redesigned to ensure the 'Begin' button was displayed on the page at all times.

5. For Design Consultation Traffweb was enhanced to include a design survey to better capture the feedback of users.

**LineMap**

1. Following user feedback, one of the biggest issues was the need to alter the base maps for some designs.
    a. Within LineMap, base maps are usually fixed and only change when the national mapping agency supplies an update.
    b. It was apparent there was a need to alter the base maps on a per design basis, for example to build out kerbs or replace footways with traffic lanes.
    c. Buchanan Computing introduced the concept of surfaces, where features were introduced and matched with the styling of the kerb and road from the base mapping – e.g. tarmac, footway etc. These features could then be drawn into a design as a new base map feature and road markings could be applied on top:




Base Maps where the footway and traffic lane needs modifying for a particular design

Surfaces widen the footway on the right and straighten the traffic lane using surface features

d. Surfaces were associated with an individual design and so new designs could be created with the unaltered base maps.

2. One of the biggest 'enhancements' was to the workflow of creating LineMap designs. Mid-project feedback suggested that having the existing situation road markings as a starting point for creating new designs sped up the design creation process. LineMap users were advised to start the design process by creating a 'Current Situation' design
3. Other improvements based on City feedback included the ability to drag a block or marking and its construction line to a new location rather than having to redraw the feature, and the ability to click and delete a feature rather than having to select for deletion by drawing round the object.

# 6. Exploitation of tools

It is the intention of MORE that all tools developed will be used to benefit other projects. In the case of the consultation and engagement tools, there is a wide variety of possible uses, both transport related and more generally for local and regional government.

LineMap is limited to uses relating to roads and transport corridors, so will be promoted principally to highways authorities. Traffweb has a much wider potential for almost any type of public information provision, optionally involving the gathering of feedback or of formal consultation.

Examples of its potential uses include:

- Consultation of urban design and streetscape generally
- Consultation on proposals affecting traffic flow
- Consultation on current parking and servicing and proposals for change
- Planning and land use issues and proposals
- Retail surveys
- Proposed cycle measures
- Public safety, security and crime reporting
- Highway safety and the notification and recording of collisions or other traffic incidents
- Noise, air quality and other environmental issues
- Current public transport provision, proposals for improvement and the locations of stops
- Severance issues
- Planning and land use proposals
- Questions and suggestions relating to landscaping and horticulture
- Locations of numerous possible amenities, such as seats, litter and recycling bins, cycle racks
- Issues connected with signing and way-marking
- Accessibility for people with disabilities
- Fault and highway defect reporting

Buchanan Computing will work initially with the experts from the city authorities already involved in MORE. They are best placed to decide whether to continue using the tools within their field of transport and highway planning. We expect them to be able to recommend other contacts within their authorities and elsewhere within their countries, who might have need for this same technology. We will seek to partner with those authorities, or with local agencies they have experience with for promotion of the tools within their country. It is our experience that an agent based in the country concerned is almost always necessary for successful sale and support of software.

Every opportunity will be taken to promote the use of these tools, and the results of MORE generally in relevant specialist media, at conferences and with professional bodies.

A demonstration website has been set-up, and potential users of the software will be directed to this. Translated versions will be made available for countries where the interest is sufficient.

# APPENDIX A: TRAFFWEB STAKEHOLDER TOOL GUIDE

TRAFFWEB STAKEHOLDER TOOL GUIDE

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# CONTENTS

**INTRODUCTION……0**

**CHAPTER 1: GENERAL WEBSITE NAVIGATION..... 1**
1.1 General Navigation ..... 1
1.2 Create New Account ..... 1
1.3 Reset Password ..... 2
1.4 Edit Delete User..... 2

**CHAPTER 2: CONSULTATION PAGE ..... 3**
2.1 Tool bar ..... 3
2.2 Insert a new comment ..... 4
2.3 Complete a Design Survey ..... 5

**CHAPTER 3: DASHBOARD PAGE..... 9**
3.1 Download Documents..... 9
3.2 Download Report..... 9
3.3 Comments Time-Line ..... 10
3.4 Charts..... 10
3.6 Chart Report ..... 12

**CHAPTER 4: ADMIN PAGE.....13**
4.1 Scheme Management ..... 13
4.2 User Management ..... 13
4.3 Document Management..... 14

# INTRODUCTION

## Overview

The Traffweb Stakeholder Tool is a web application developed under the MORE project (Multi Modal Optimization of Road Space in Europe) which is a European Commission funded research project that recognizes roads that are under pressure and the demand for transport is becoming increasingly diverse. Delays and variable travel times put the reliability of the network at risk both for passengers and freight. This requires a more efficient use of road space, applying multimodal design.

(For more information about the MORE Project: https://www.roadspace.eu/)

MORE will implement and test tools for roadspace design in five urban nodes of the Trans European Transport Network (TEN-T): Budapest, Constanta, Lisbon, London, and Malmö.

In order to help the project achieve the objectives for each of the five cities the Traffweb Stakeholder Tool will consists of two types of consultation:

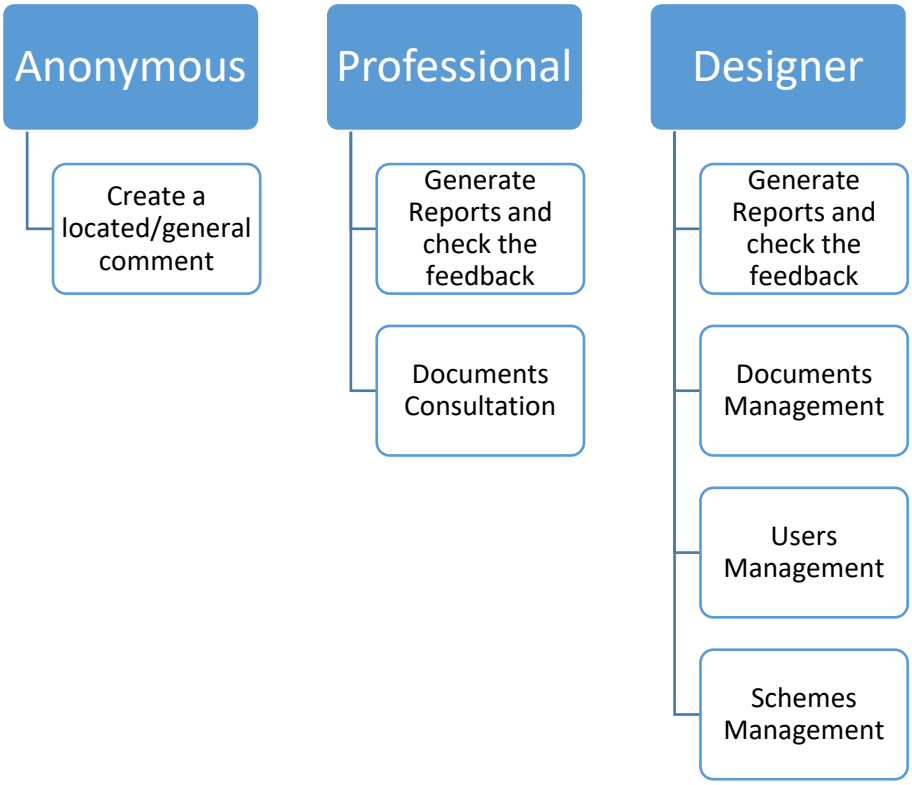
• Issue Consultation: Collect issues, suggestions and comments regarding the current situation within the study area;
• Design Consultation: Feedback on design(s) for the improvement of the study area.

That means that in the website you will be able to:

1. Collect data from stakeholders relating to issues and feedback during Issue Consultation.
2. Collect data from stakeholders relating to designs and feedback during Design Consultation.
3. Provide feedback on stakeholder engagement via a secure interactive dashboard and downloadable reports.

## TRAFFWEB USE CASE

This diagram shows what each kind of user can do in the website



# CHAPTER 1: GENERAL WEBSITE NAVIGATION

## 1.1 General Navigation

The first thing to do is launch your favourite browser and open the city landing page at:

Budapest - https://www.moreconsultation.eu/budapest

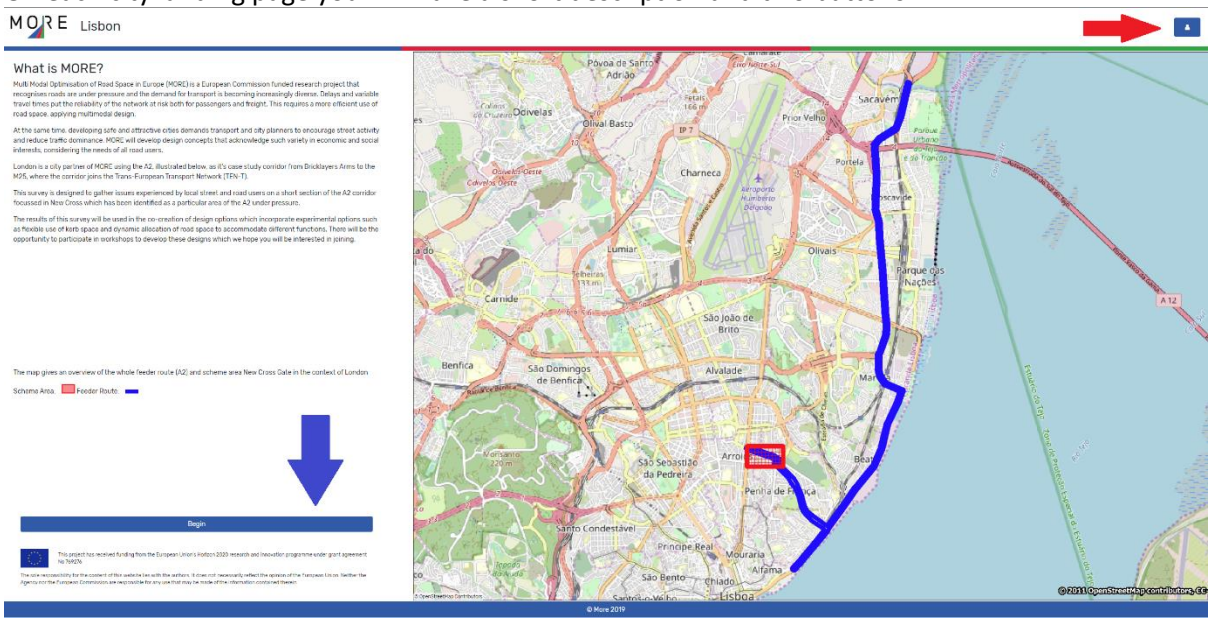
Constanta - https://www.moreconsultation.eu/constanta

Lisbon - https://www.moreconsultation.eu/lisbon

London - https://www.moreconsultation.eu/london

Malmo - https://www.moreconsultation.eu/malmo

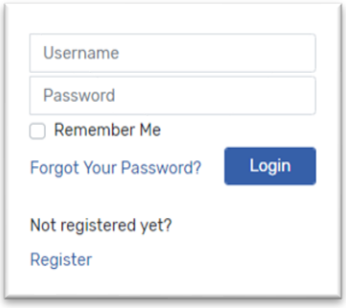
On each city landing page you will have a short description and two buttons.




The begin button (blue arrow) will redirect you to the consultation page (see here) that you will see later.

The button (red arrow) is the most import button when we speak about navigation.

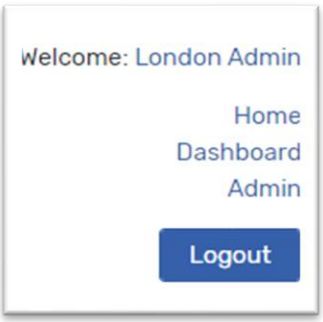
If you press it when **logged out** you should see this:




Here you can:

- Login;
- Create a new account;
- Reset your password.

If you are **logged in** you should see this:

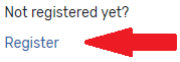



And you will be able to:

- Logout;
- Edit/Delete user;
- Go to Home;
- Go to Dashboard Page;
- Go to Administration Page.

## 1.2 Create New Account

In order to create a new account you should press and then

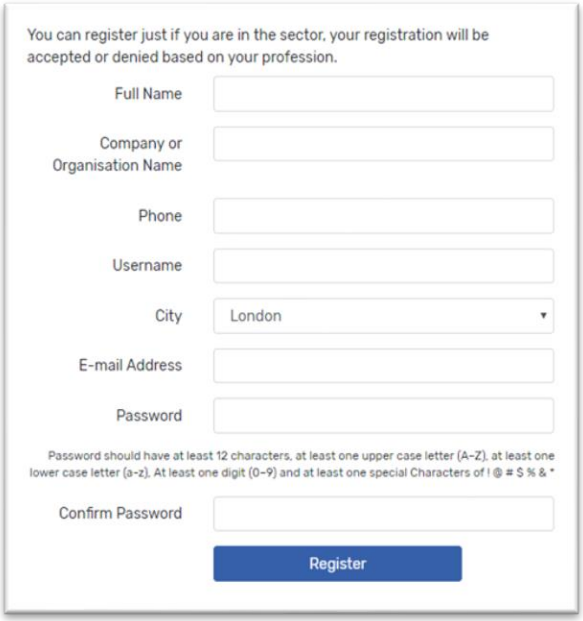



You will get the register form that you need to fill with a valid email address (you will have to validate it).

Select the city you are working with and press "Register".

After that you will receive an email with a validation link that you need to follow in order to validate your account.

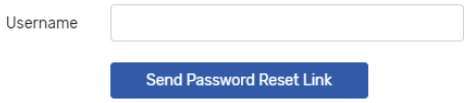
Your account is now created, however in order to you to have access to the Dashboard one of the designers from your city need to accept you as a Professional user.




**Note:** To create a designer account you have to follow the same steps and then contact Buchanan Computing at tech.info@buchanancomputing.co.uk in order to promote your user.

## 1.3 Reset Password

To reset you password in case you forgot it press and then

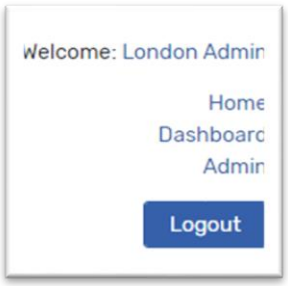

Simple form will appear, and you just need to insert your username and press “Send Password Link”.

A few moments later you should receive an email with further instruction.

**Note:** If you don’t receive any email (make sure that is not in your spam folder) or you don’t remember your username please contact Buchanan Computing at tech.info@buchanancomputing.co.uk.

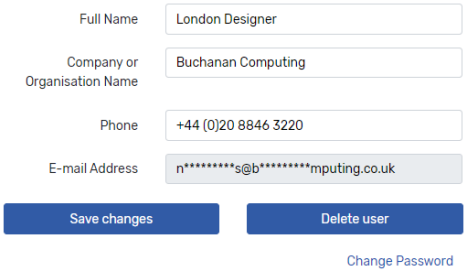
## 1.4 Edit Delete User

Now that you have an account you can press enter your username and password in order to login.
Once logged in if you press again as previously shown you will get this window:




If you click in your name it will redirect you to the user details page where you can edit some of your details, delete your user or reset your password.

As you can see in the image below, you cannot change your email address, however in order to update any of the other details, just change them and then press “**Save Changes**”.

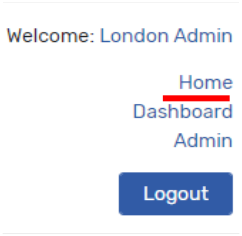



To delete your user you have to press “**Delete User**”, and type your password in order to confirm that you really want to delete your user.

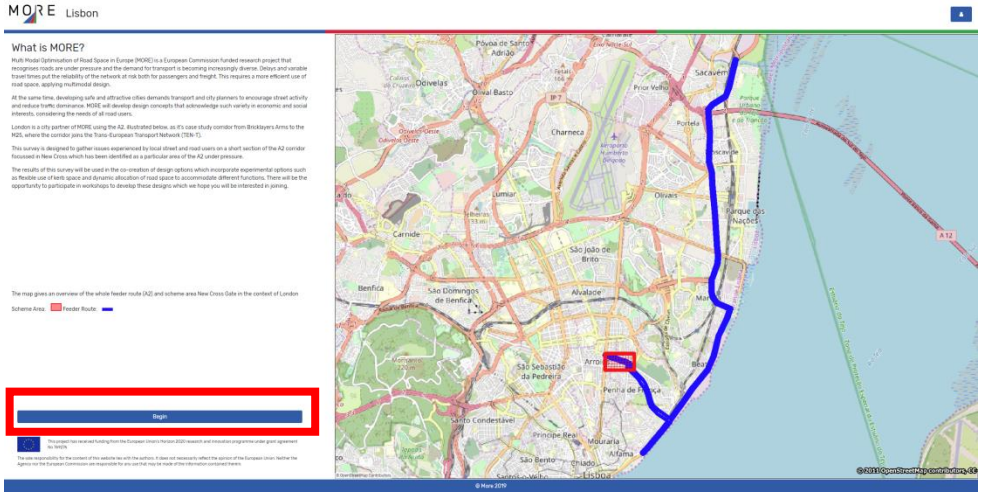
Last option in this page is the ability to change your password pressing the “**Change Password**” link and you will receive an email with further instruction.

# CHAPTER 2: CONSULTATION PAGE

To open the consultation page you need to press the button and then in the navigation windows press “Home”.

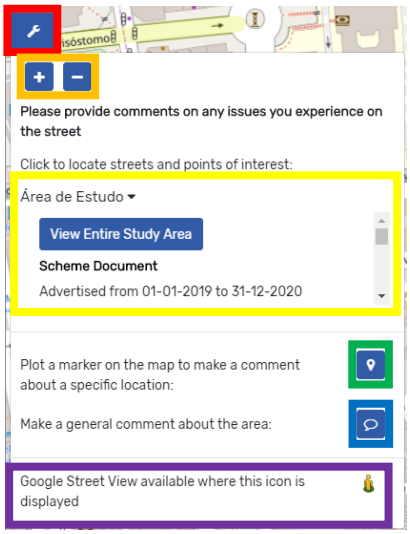



Once in the city landing page you should press the “Begin” button.




After that you are in the consultation page. In this page anyone can **insert new comments** regarding Schemes or Designs under consultation.

## 2.1 Tool bar




- Hide / Display Tool Bar
- Zoom in and out
- List all the Schemes and streets within the Scheme
- Insert a comment in a specific
- Insert a general comment (no location).
- Legend of items displayed in the

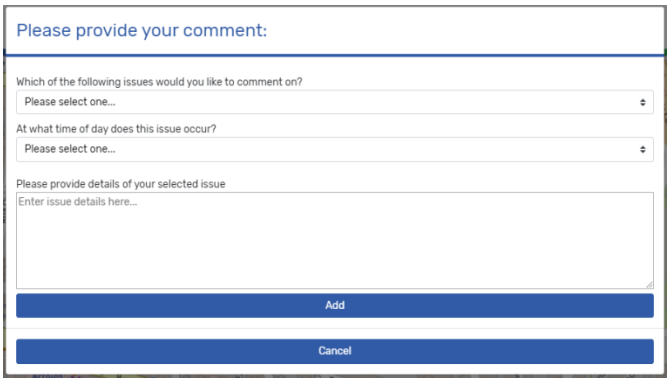
## 2.2 Insert a new comment

In order to insert a new comment for issue consultation you need to open the Tool Bar as shown previously and then depending on which kind of comment you want to insert you should:

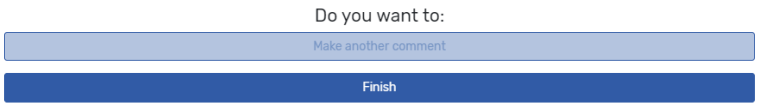
- Specific location comment - > -> Then you click in the location where you want the comment in the map
- General comment ->

**Note:** In the Tool Bar you have the list of streets within a Scheme, is you click in one of the streets it will move the Map to that street.

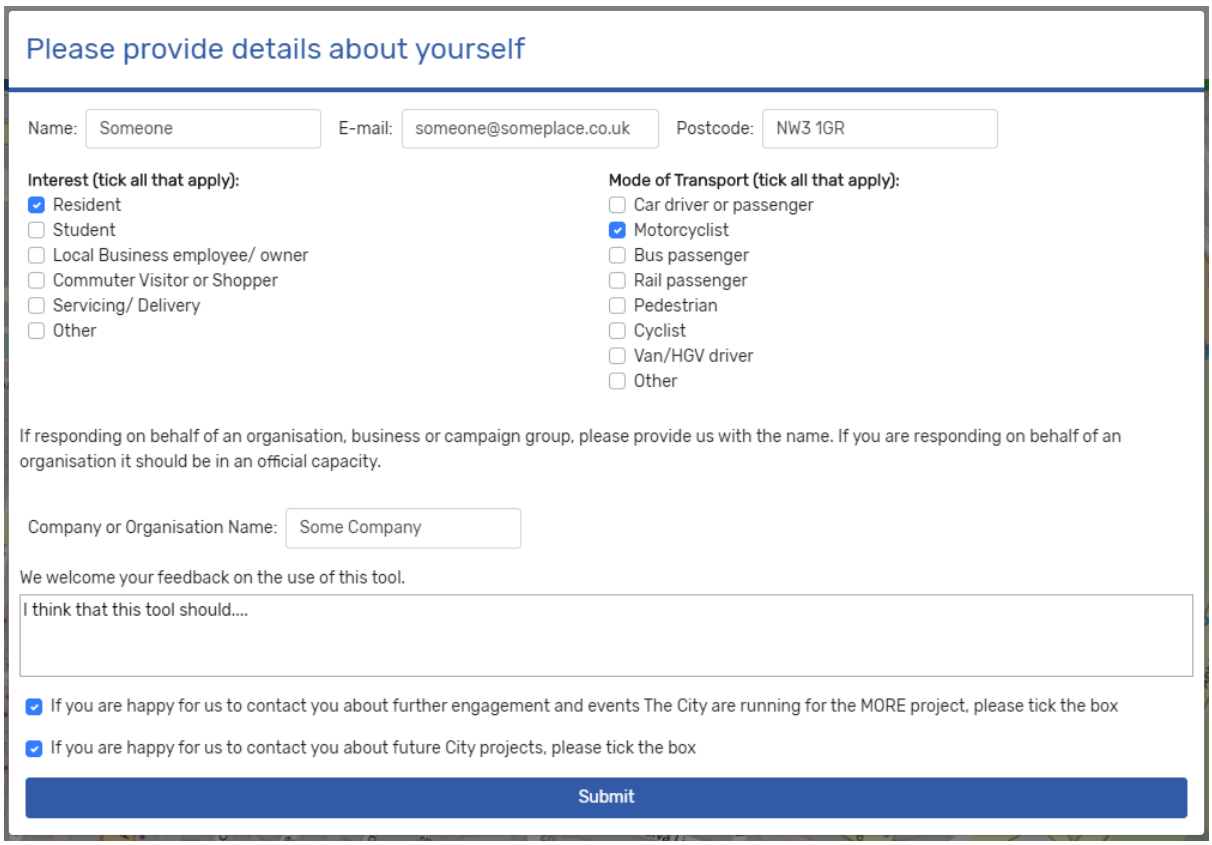
After that you will get a form to fill with the comment details: type of issue, issue time of the day and finally your free text comment.




Once finished press “Add” and you will have two options:




If you press “Make another comment” you have to follow the same steps, and if you press “Finish” you go to the next form which is the user details.

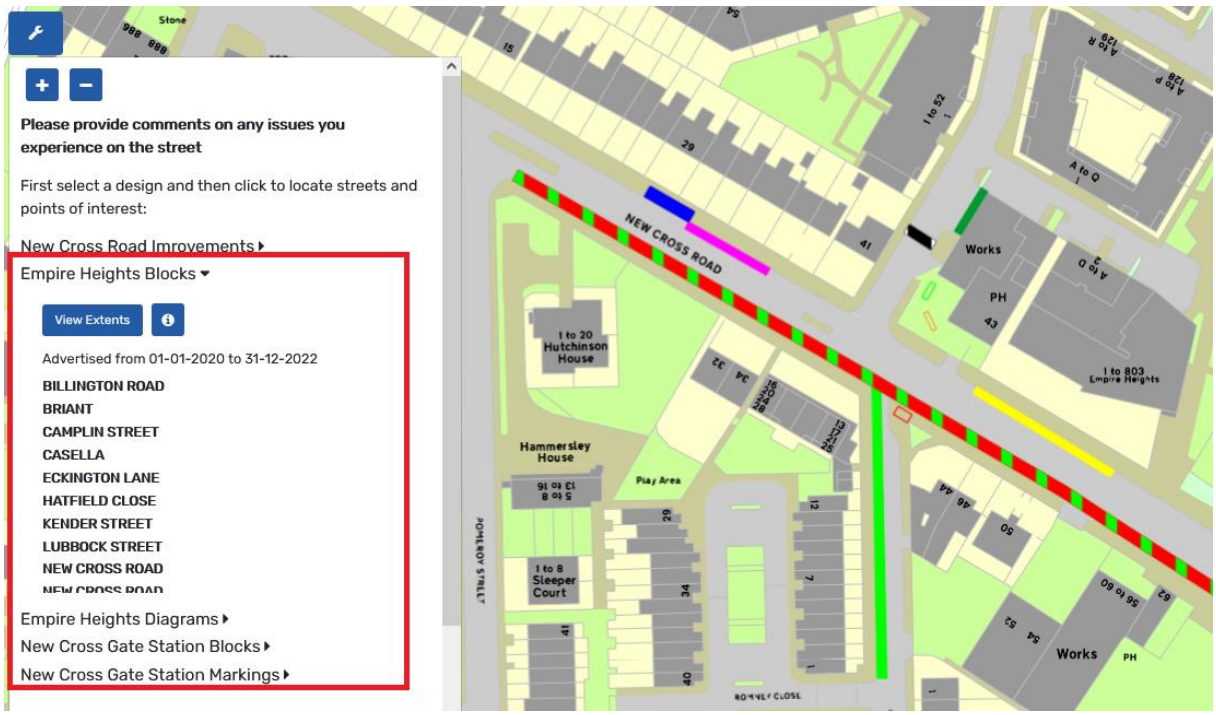



You fill the form, press "Submit" and it's done.

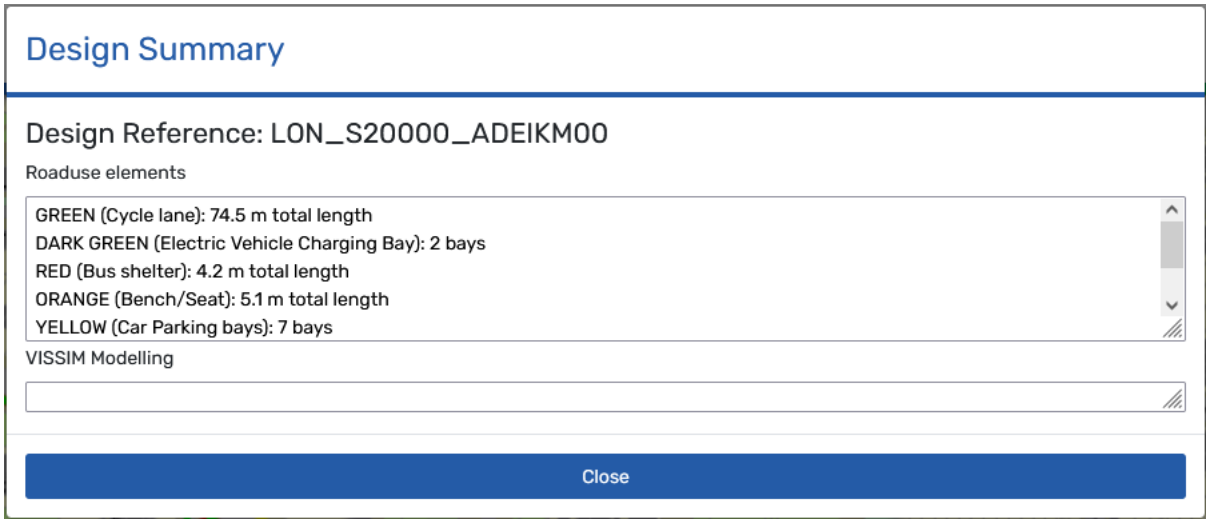
At this point you will be able to see other people comments and you can click on the in order to check the type of issue, issue time of the day and the date that it was inserted.

## 2.3 Complete a Design Survey

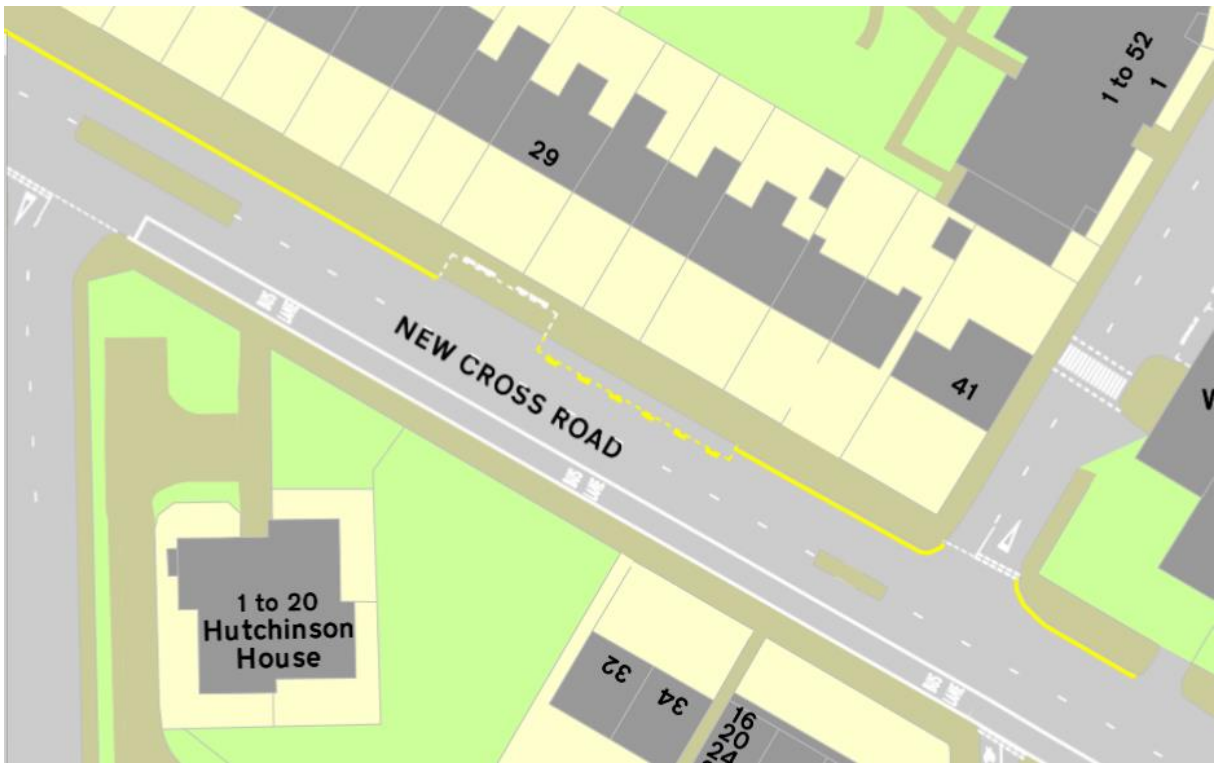
In order to provide feedback on designs created using LineMap a survey is available to complete on individual designs. You can view designs using the highlighted area below, simply by clicking on the design name:



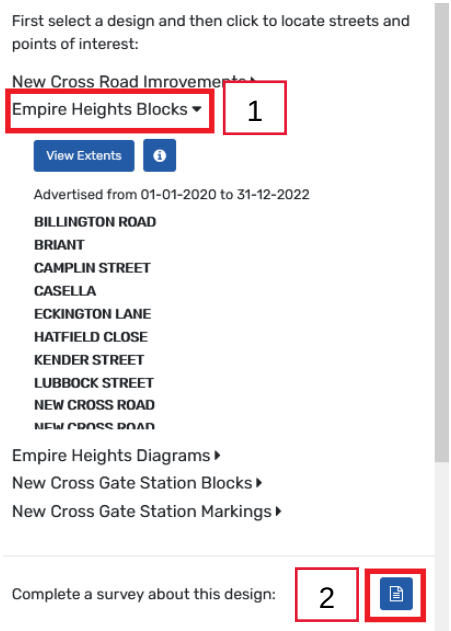

In the figure above clicking on 'Empire Heights Blocks' will navigate the map to the designs extents and display the design elements on the map. You can click on a street name to relocate the map further, or the button to view a summary of the design:



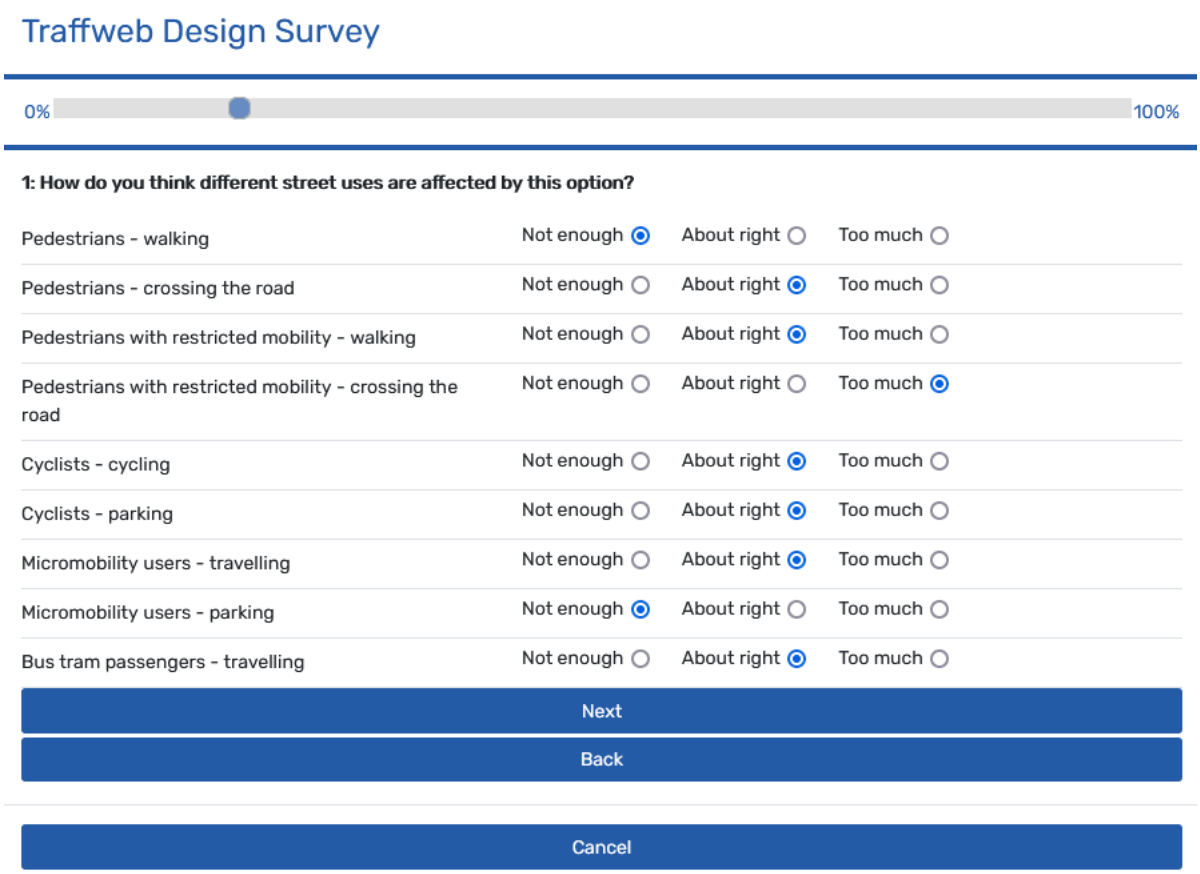

There can be two representations of a design, blocks as shown above or the corresponding road markings:




To complete a survey on the design click first on the design (1) then the survey button (2):

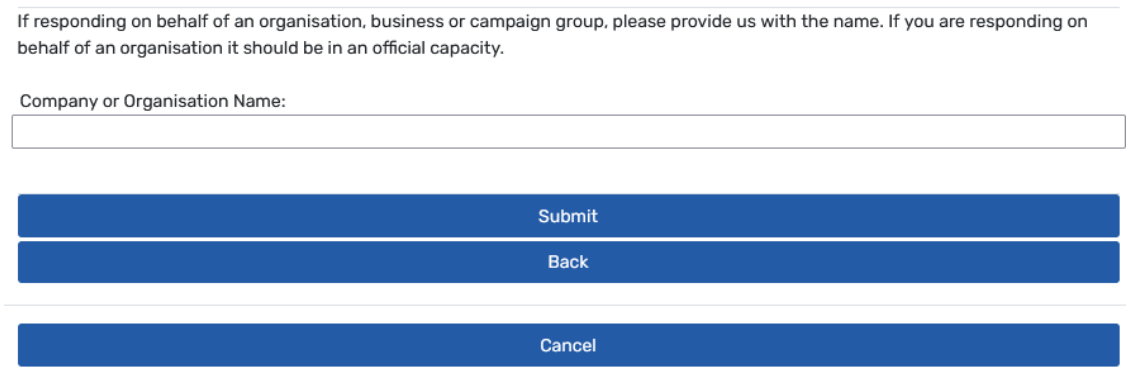



Complete the questions on each page as displayed. A progress bar tracks the percentage completion of the survey at the top of the dialog:




Click Next to proceed to the next page of the survey. Any errors will be flagged in red text for you to correct before proceeding. 'Back' will return you to the previous page and 'Cancel' will close the survey without completion.

On the final page of the survey 'Next' will be replace with a 'Submit' button:

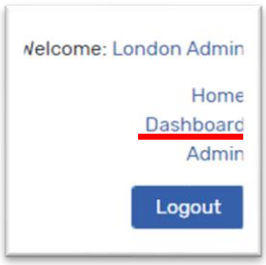


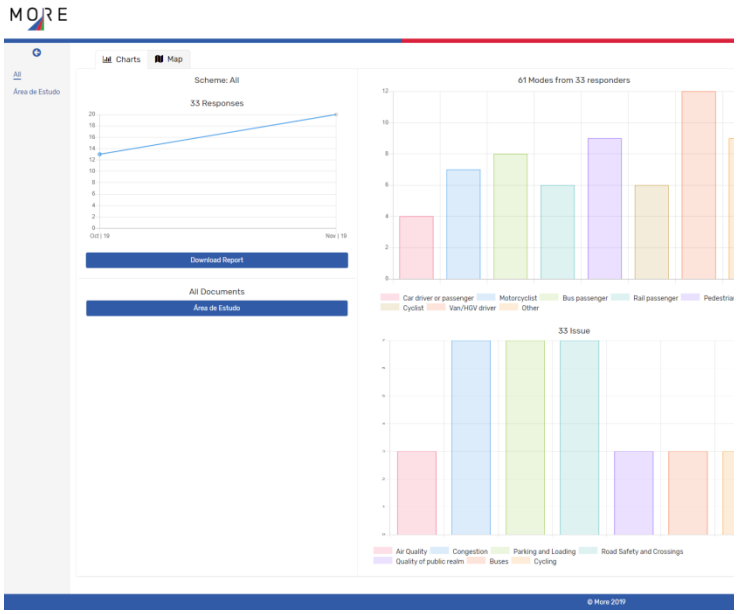

Click on 'Submit' to complete and save the survey.

# CHAPTER 3: DASHBOARD PAGE

In the “Dashboard” page you can do a few things such as: data analysis from multiple charts, print reports and download documents.

To open the Dashboard you should press and then




## 3.1 Download Documents

In the “All Documents” list you will have one button per Scheme, if you press it you will have a list of all documents attached to that Scheme.

**Note:** If the list is empty that means that no documents were uploaded yet (Upload Documents).

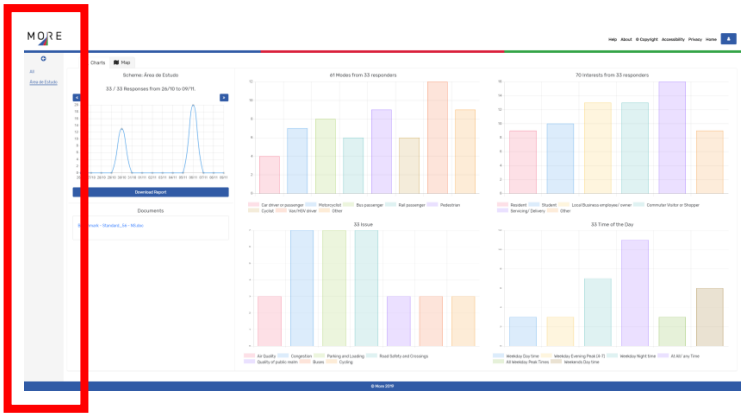
## 3.2 Download Report

To download a report you should press the “Download Report” button. As soon as the report is ready for download you will have a new button 

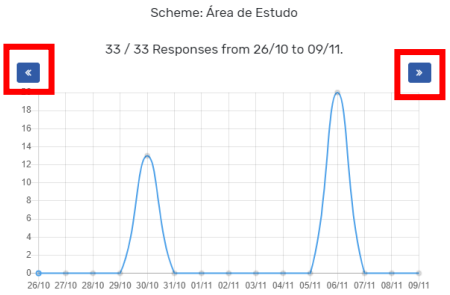
to download it.

## 3.3 Comments Time-Line

In the left Schemes Bar you can filter the data for each Scheme.



When you select a single Scheme you will be able to “navigate” in time to see how many comments you had in a time-line.



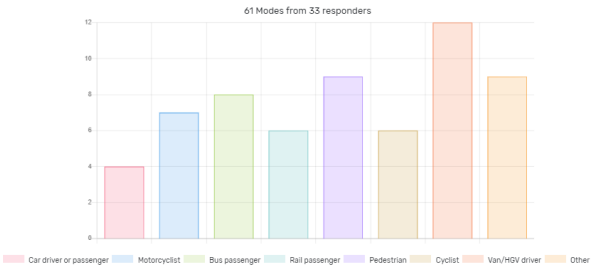

Pressing the arrow’s you can go back and forward in time.

**Note:** When all the Schemes are selected in the Schemes bar, you will get a static generic time chart by Month.

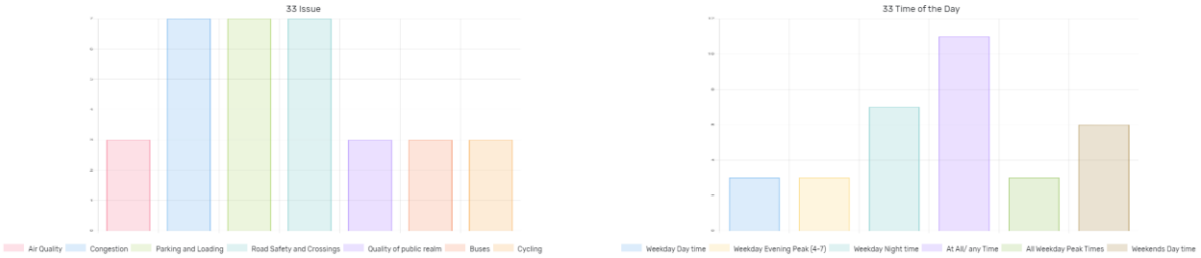
## 3.4 Charts

The two upper charts will display data related to the responders, the most frequent mode of transportation, and their interest in a particular Scheme.

**Note:** A responder can have more than one mode of transportation and more than one interest.

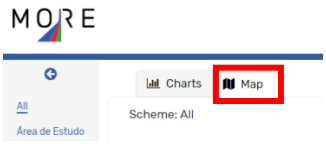


The two bottom charts will tell you which is the most frequent type of issue, and at what time is that issue happening.




## 3.5 Map

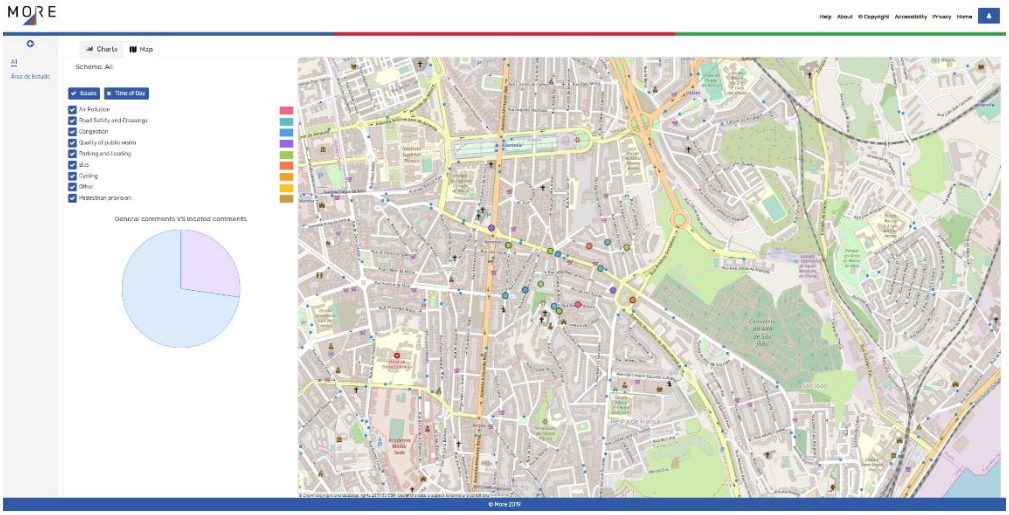
Apart from this charts you can also check in a map where and which kind of issue are being reported. At the top of the page press “Map”.




In this page, you will have a legend and you can turn items on and off clicking in the check box.
You can also switch between types of issue, and time of the day.

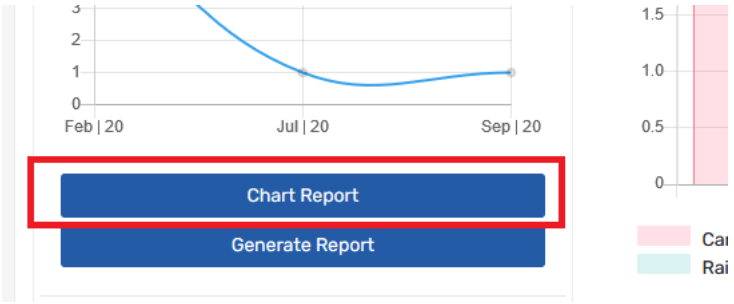
All the comments are clickable and they will prompt with a Popup displaying data related to the response that you clicked at.

The pie chart will show you the amount of located vs general comments.



## 3.6 Chart Report

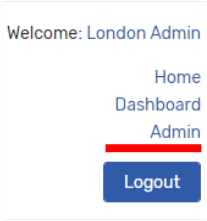
You can download or print a report containing the charts:




Clicking on the 'Chart Report' button will produce a preview of the report, which you can then either print or download as a pdf file.

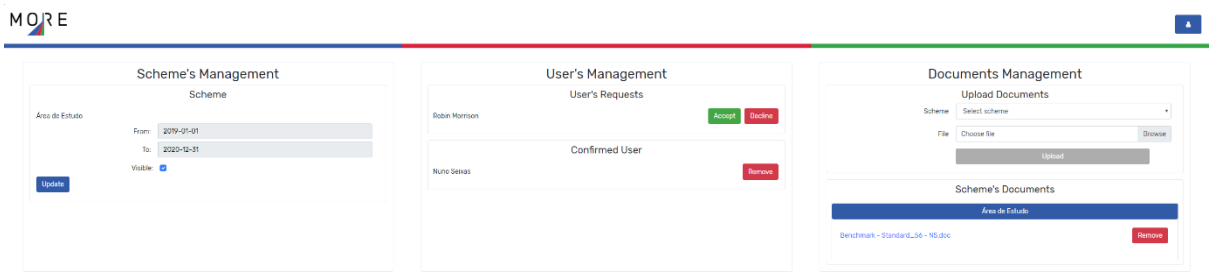
# CHAPTER 4: ADMIN PAGE

To navigate to the “Admin” page press and then “Admin”:



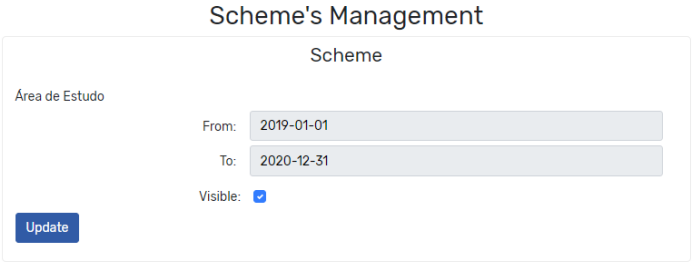

The Admin page is only accessible by “Designers”, and here you will be able to:

- Update Scheme’s dates and set them as visible or not
- Accept or Decline new users
- Delete existing users
- Upload, view and delete documents




## 4.1 Scheme Management

If you want a scheme to be visible to consultation you must set it as visible, and the consultation dates must include the current date between them.

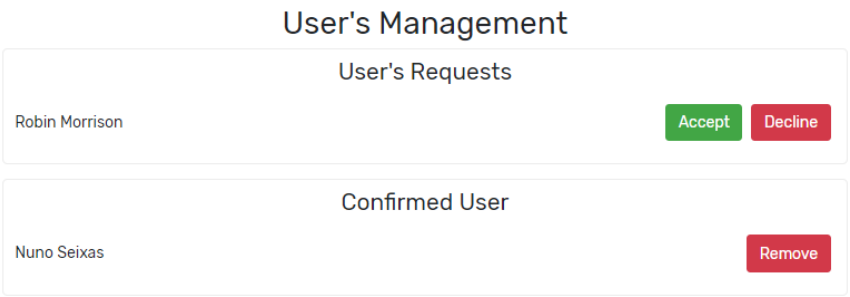



**Note:** Only one Scheme can be updated at a time, which means that if you change two of them and save one, the changes made in the second one will be lost.

## 4.2 User Management

The User Management area has two lists:

- Users Request – If someone create a new account and validate it, where is where you can accept or reject them.
- Confirmed users – List all users registered in the system and allow you to delete them.

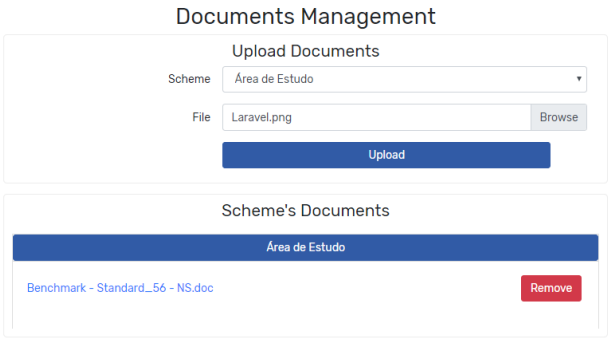



## 4.3 Document Management

All the document in this tool are “attached” to a Scheme.

In order to **upload a new document** to the application you have to choose the Scheme you want from the Scheme drop down list and the click in the “Browse” button to select a file from your computer.
Finally click in the “Upload” button.

In the Scheme’s Documents you have a button for each scheme available in the system, and if you press one of them you will be able to see all the documents attached to that scheme.
If you press the Document name you will be able to download it, and if you press the “**Delete**” button you can delete it.




# USEFUL CONTACTS: BUCHANAN COMPUTING

- ### Support

  If you have any problems, issues or queries with regards to using the system please feel free to contact our support helpdesk:

  - Tel – 020 8846 3220
  - Email – support@BuchananComputing.co.uk

# APPENDIX B: LINEMAP TRAINING GUIDE

## LINEMAP TRAINING GUIDE

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www.BuchananComputing.co.uk

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# CONTENTS


*Linemap Training Guide* ..... *0*

*Contents* ..... *1*

*Introduction* ..... *2*

Overview ..... 2

How to use this Guide ..... 3

*Glossary of terms* ..... *4*

*Chapter 1: Getting started* ..... *5*

1.1 Fundamentals ..... 6

1.2 Designs, Schemes, Routes to display ..... 10

1.3 Labels, maps & reports ..... 12

1.4 Formal Printouts ..... 14

1.5 MORE Project Quick Start Guide ..... 19

*Chapter 2: Generating Designs* ..... *31*

2.1 Overview of the basics ..... 32

2.2 Using the guidelines to draw markings ..... 38

*Chapter 3: EXPORTING DATA* ..... *62*

*CONCLUSION* ..... *63*

# INTRODUCTION

## Overview

LineMap combines the power of CAD with the simplicity of word processing, to provide a fast and accurate design tool

This edition of LineMap has been designed for the MORE project to aid collaborative design and stakeholder engagement, focusing on road space use design using blocks as well as road markings which can be published to Traffweb for consultation.

(For more information about the MORE Project: https://www.roadspace.eu/)

***LineMap:*** Comprehensive tool for drawing and designing road markings. It contains all the latest TSRGD road markings (lines, text and arrows/symbols), as well as the Pedestrian Crossing Regulations. It can be used to generate a basic authority wide record of all your road markings. Other features include:

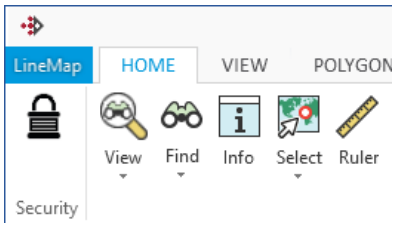
- Create and manage Schemes and Designs
- Produce high quality scale drawings
- Range of drawing tools
- Export and import facilities to both CAD and GIS packages
- Publish designs online using Traffweb

This training guide covers the core aspects relating to the design of road markings, as well as exporting and publishing data as required by the MORE project.

## How to use this Guide

The structure of the training document is designed to take users through different work flows and tasks, rather than just by each function.

Where a series of commands is used with the **>** symbol this means a series of commands from the dropdown list at the top of the screen. Other ways are by using icons.



Home > Security

'Single quotes' denote text taken directly from LineMap headings from menu and display boxes.

# GLOSSARY OF TERMS

| | |
|---|---|
| Annotation | Any additional information that is related to the design of a scheme but not specifically a marking can be stored as annotation e.g. changes to kerb layouts etc. |
| Base Mapping | The Ordnance Survey maps that act as a base, either Master Map or Landline data. The maps of the relevant region are held within the system as a series of layers that are non-editable, on top of which schemes of markings are added. |
| Diagram / TSRGD No. | This is the reference number for a type of road marking that is referenced by The Traffic Signs Regulations and General Directions Manual of 2002. |
| GIS | Geographical Information System. An organised collection of computer hardware, software and geographic data designed to efficiently capture, store, update, manipulate, analyse, and display all forms of geographically referenced information. |
| Guideline or Construction Line | The temporary lines that are used to plot the resulting marking. They are plotted either manually or with system assistance, i.e. to follow the kerb line and are depicted as blue pecked lines. They are only present whilst the marking is being plotted. |
| Scheme | A scheme defines an area of study in LineMap and is defined either by a simple rectangle showing its extents, or by the extents of the designs within the scheme. Each scheme has a date advertised and date closed to denote its consultation period. |
| Design | Groupings of markings can be placed together into a design. These will generally be markings that are designed together and plotted at the same time. They may cover an area such as the re-design of a road junction or a broader area such as the length of a highway. |
| Template line | This is the saved version of the guideline that depicts the extent/direction of a marking, and it is from this that the marking could be regenerated; these are depicted as red pecked lines. |
| TSRGD | Traffic Signs Regulations and General Directions |
| Traffweb | Online Consultation and stakeholder engagement tool |
| Issue Consultation | Collect issues, suggestions and comments regarding the current situation within the study area |
| Design Consultation | Feedback on design(s) for the improvement of the study area |

# CHAPTER 1: GETTING STARTED


1.1 Fundamentals ..... 6
1.1.1 Starting/Exiting a LineMap Session ..... 6
1.1.2 LineMap tab menu ..... 6
1.1.3 Right click menu ..... 7
1.1.4 Zooming Options ..... 7
1.1.5 Repositioning the Display ..... 8
1.1.6 Using the Gazetteers ..... 8

1.2 Designs, Schemes, Routes to display ..... 10
1.2.1 Designs to display ..... 10
1.2.1 Schemes to display ..... 10
1.2.1 Routes to display ..... 10
1.2.2 View the most recent added design ..... 11
1.2.3 View all displayed designs ..... 11
1.2.3 The 'information' button ..... 11

1.3 Labels, maps & reports ..... 12
1.3.1 Labelling ..... 12
1.3.2 Generate Labels ..... 12
1.3.3 View Saved Labels ..... 12
1.3.4 Items selection ..... 13

1.4 Formal Printouts ..... 14
1.4.1 Print Preview Options ..... 14
1.4.2 Print Preview Toolbar ..... 15
1.4.3 The View Frame Option ..... 16
1.4.4 Printing Several Print Frames ..... 16

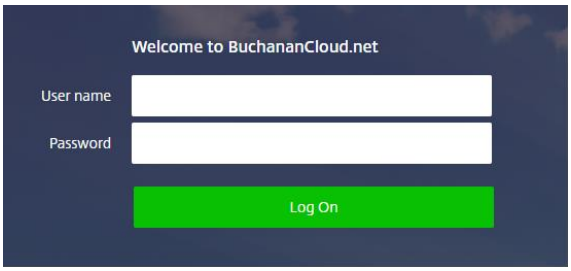
1.5 MORE Project Quick Start Guide ..... 19
1.5.1 Design Creation ..... 21
1.5.2 MORE Project Reporting ..... 28
3.1.1 Overview ..... 62
3.1.2 Traffweb Publishing ..... 62
3.1.3 VISSIM Export ..... 62

## 1.1 Fundamentals

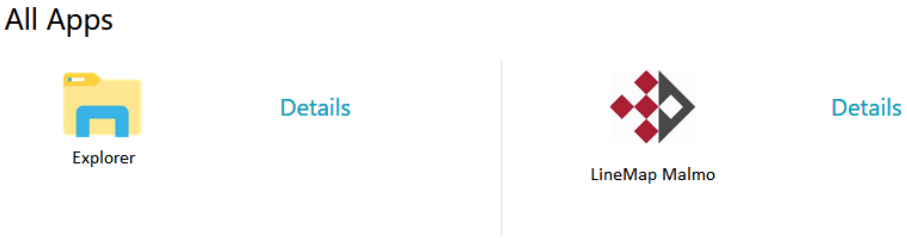
### 1.1.1 Starting/Exiting a LineMap Session

You will first need to log onto your cloud service at the following web address:

https://buchanancloud.net




Once logged in, you will be able to click on the LineMap icon to launch the application:

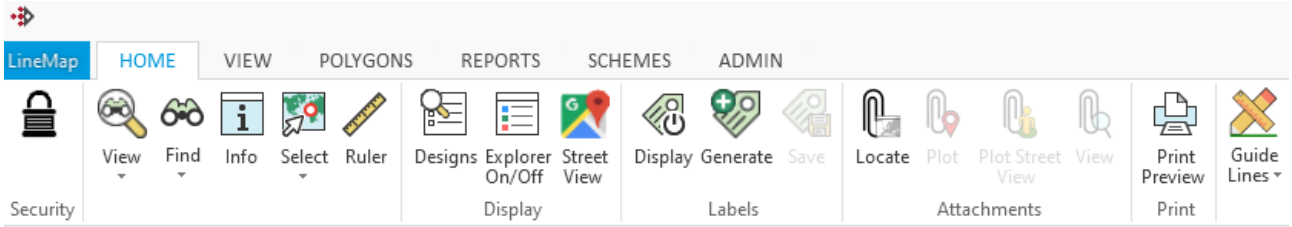



Explorer will give you access to a drive where any LineMap related documents should be saved.

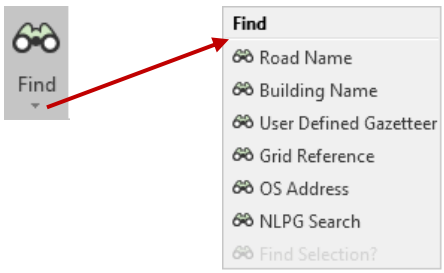
To finish your LineMap session click on the LineMap tab and select exit (Alt + F4) or just use the cross on the top right corner of your screen.

### 1.1.2 LineMap tab menu

The following tab will be displayed on start-up:



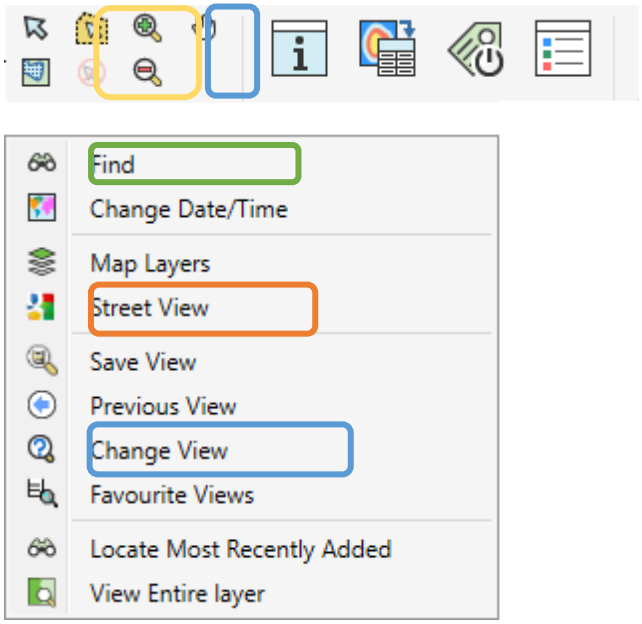

You can hide the tabs by clicking on the ^ button on the bottom right corner of the tab's ribbon and you can bring all the tabs back on display by simply double clicking on the text (e.g. HOME, VIEW) at the top of your screen. The icons with an arrow pointing down ˅ below a button in the ribbon bar means that more options are available for you to choose from.



The buttons displayed on the tabs vary in size depending on your screen resolution or on how maximised/minimised the LineMap screen is. Buttons may also be grouped together if your screen resolution is too small.

### 1.1.3 Right click menu

Most of the fundamental functions covered in this chapter are accessible via the tabs but also via a simple right click on the map display. The right click menu allow a quick access to the most commonly used LineMap functions such as zooming, panning, street search, selecting or querying information.




*Right click menu option (view only mode)*

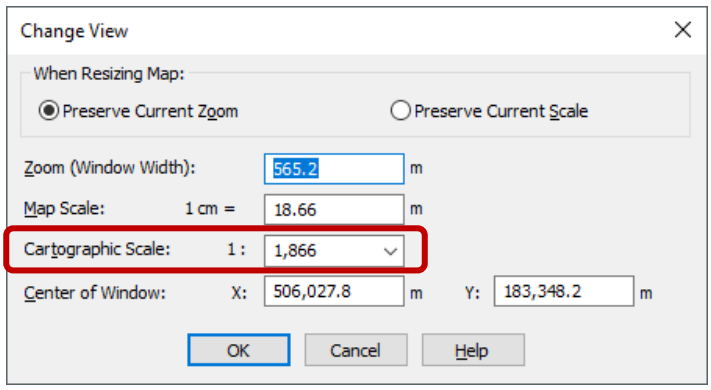
### 1.1.4 Zooming Options

You can zoom in and out of your map display using the LineMap zoom features from the **HOME > View** or by right clicking on the map.

The button can be used to zoom in and the button can be used to zoom out. Simply select one of the zoom features and click on the map display. Alternatively, you can use the scroll button on your mouse. Scroll up to zoom in and scroll down to zoom out.

A more precise way of zooming in is to select the button and click and hold to create a box around the specified area you want to zoom in to. The map display will zoom directly into the chosen area, avoiding the need to repeatedly click or scroll.

There is also the option to define a particular zoom or scale via the Change View facility. This can be accessed by clicking on the Change View button or by right clicking on the display and selecting the Change View option from the pop-up menu. The following dialogue will be displayed:




The cartographic scale will allow you to select a specific scale for your display which then can be used for printing maps out.

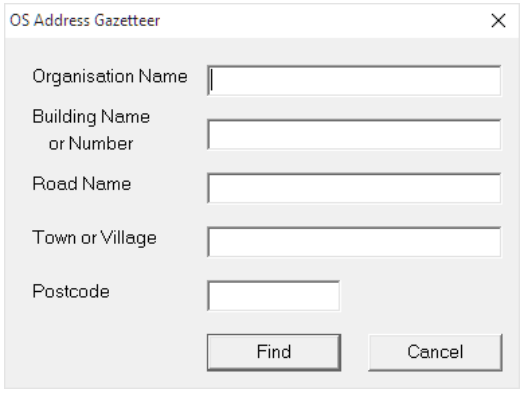
### 1.1.5 Repositioning the Display

You are able to pan around your map display using the Grabber tool also available where the zooming buttons are (**HOME > View**). Having selected this, simply click and drag the map around to the required location. You can also click in the scroll wheel (without rotate) and move the mouse in the map window.

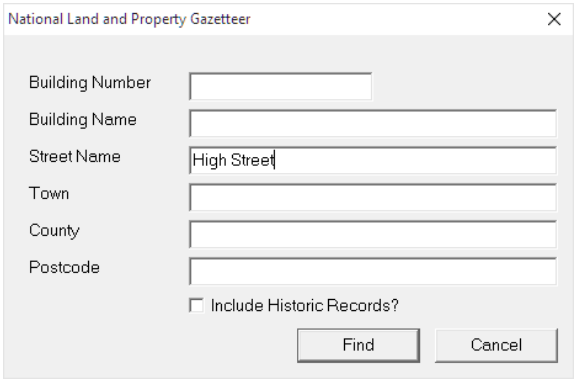
### 1.1.6 Using the Gazetteers

It is possible to relocate your map display to certain streets or buildings by making use of any available gazetteers. All LineMap's gazetteers can be found under the tab **HOME > Find.** Several gazetteers are available for you to use.

The National Land and Property Gazetteer (NLPG) or Address Search (OS AddressBase) should be used whenever possible as these contain the most data allowing you to narrow down your searches.

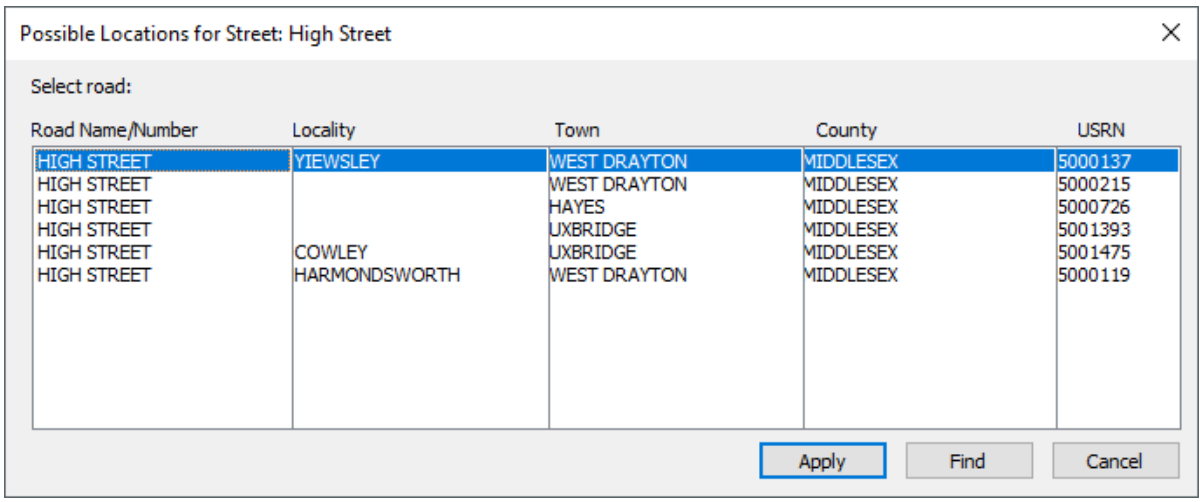



*Address Gazetteer*




*NLPG Gazetteer*

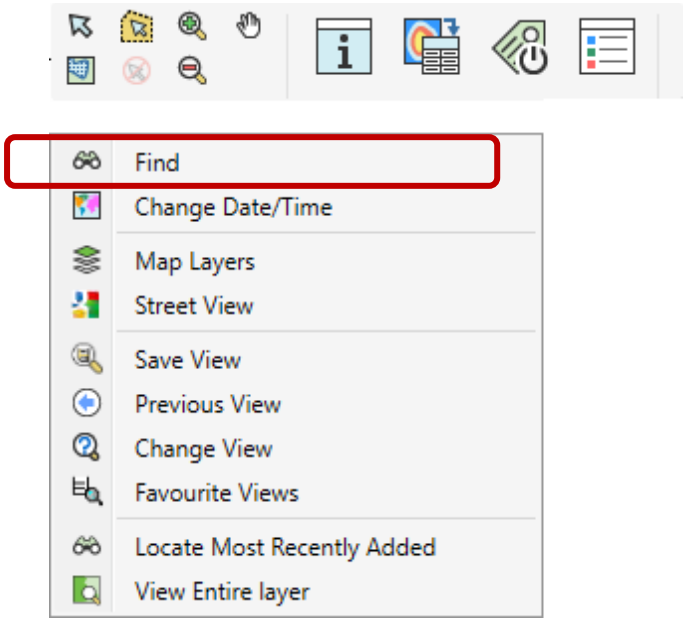
Here you can type in the required street name (in full or in part) as well as any other information that may be used to narrow down the search (e.g. 'Town' can be used to differentiate between two streets of the same name within different towns). You can then click Find. A list of possible matches will be displayed allowing you to select the relevant area:




Clicking Find will relocate your map display to the selected street or Apply to zoom to the street highlighted in blue without closing the dialogue.

A list of possible locations will only be displayed if your search criterion matches several records. If your search only produces only one record LineMap will automatically relocate to the street found.

You can also easily access the AddressBase gazetteer by right clicking anywhere on the map and selecting the Find option from the list as shown below:

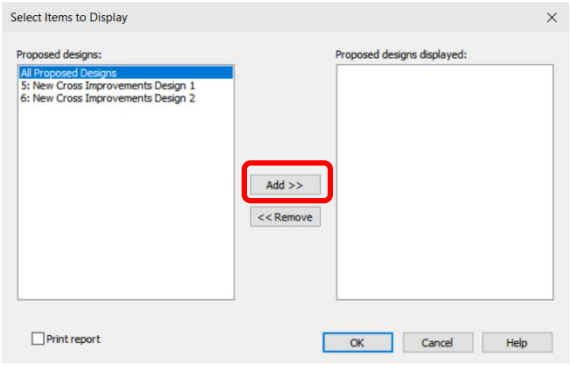


## 1.2 Designs, Schemes, Routes to display

### 1.2.1 Designs to display

All markings and surfaces are allocated to a 'Design'. Designs can be grouped together as a 'Scheme'. By Default no designs are displayed.

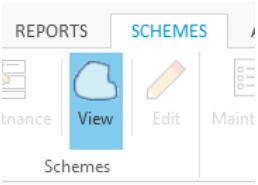
HOME>Designs or SCHEMES>Select Designs or right click on the mapping on select 'Alter Display':




Select the relevant design from proposed designs, then click add. Click OK to add the design to the map display

### 1.2.1 Schemes to display

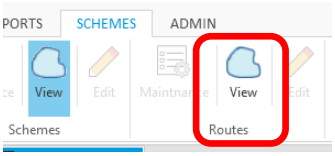
To display all schemes as extents chose: SCHEMES>View. This shows all scheme extents. To view on the map right click and choose **View Entire Layer**, then choose the layer 'LMSchemes' from the list.




The button is highlighted to show the Schemes view is displayed. Click View again to hide the Schemes layer from the map display.

### 1.2.1 Routes to display

To display all Routes: **SCHEMES>View** in the Routes section.



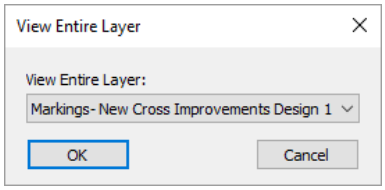

To view on the map right click and choose **View Entire Layer**, then choose the layer 'LMRoutes' from the list.

### 1.2.2 View the most recent added design

To view the most recent design right click on the map and select from the menu **View>Locate Most Recently added**.

### 1.2.3 View all displayed designs

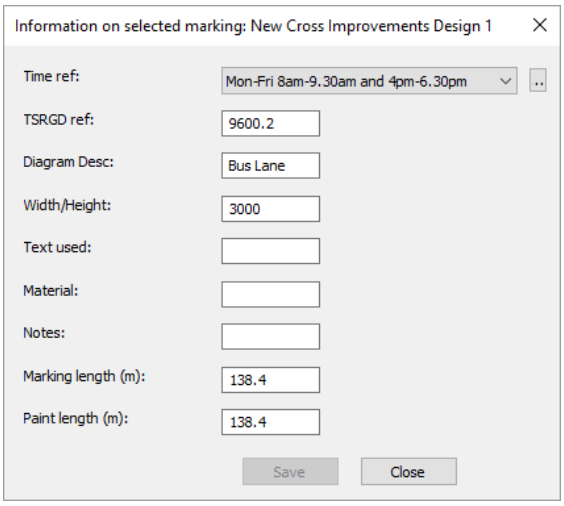
To view the most recent design right click on the map and select from the menu **View>View Entire Layer** and choose Markings – Design….




### 1.2.3 The 'information' button

Click on the information button to access information from the LineMap database. Either right click on the map and access the button from the toolbar or **HOME > info**

Once this button has been pressed, click on any input item on the map in order to view information about it.



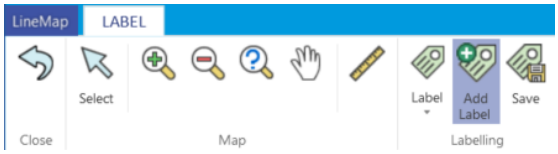
## 1.3 Labels, maps & reports

### 1.3.1 Labelling

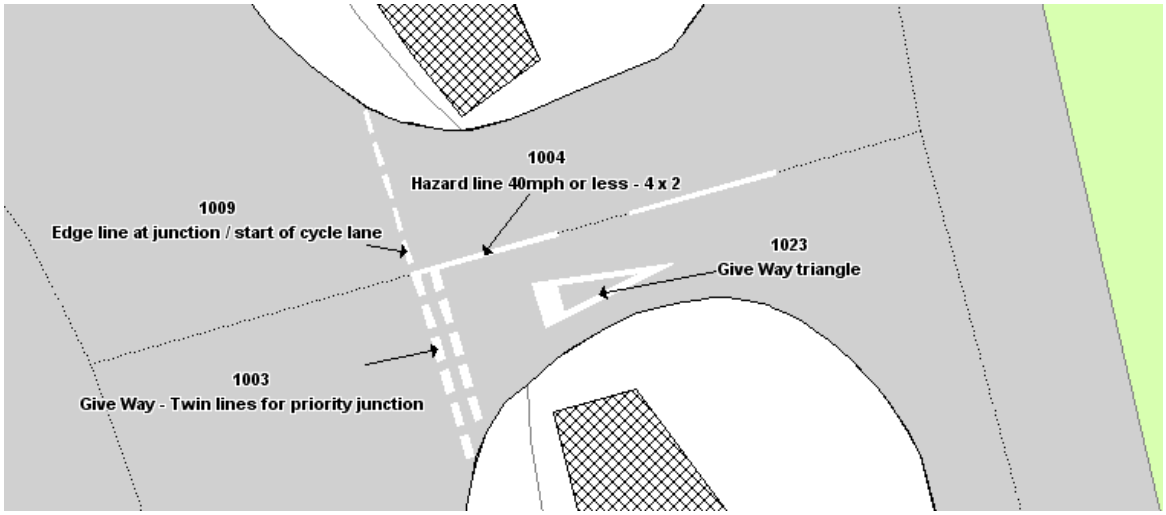
LineMap allows you to label or display saved labels for markings on the map display (via **HOME > Labels**). You can change the LM labels style under **ADMIN > Settings > LineMap > Label Style**.

### 1.3.2 Generate Labels

You can label items on display by clicking on the Generate labels tool. Once the labels generated the Label Tab will appear:




From the Add Label button, click on a LineMap feature to display the label on the map. You will need to click on each individual items you wish to label.




Reposition them using and dragging them to the required position. Individual labels styles can be edited (text and appearance) by double clicking on them and deleted by using the **Delete** key on your keyboard. Once you are finished positioning labels click to return to the main ribbon.

### 1.3.3 View Saved Labels

Use the button on the HOME tab to toggle saved labels on and off.

### 1.3.4 Items selection

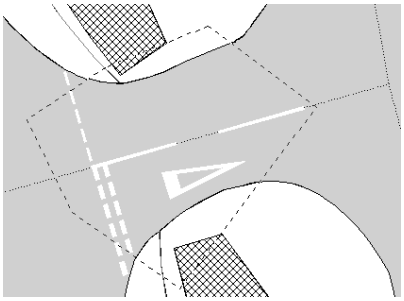
Item Selection is on the HOME tab and right click menu.

Selection tools

To select one item, use the tool. The item you wish to select will be highlighted as soon as you click on it.

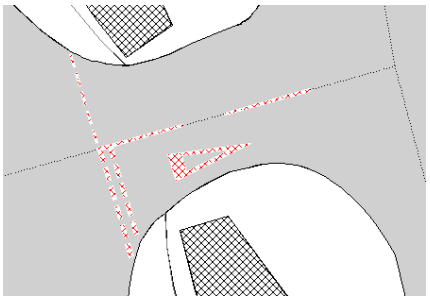
Note that the 'highlighting style' may vary according to your system setup.

To select more than one item, hold down the **<Ctrl>** key and select additional items one by one. Alternatively, to select multiple items over a wide area, draw a polygon with your polygon select tool to define your area of interest.



Drawing a polygon
using the polygon select tool

→



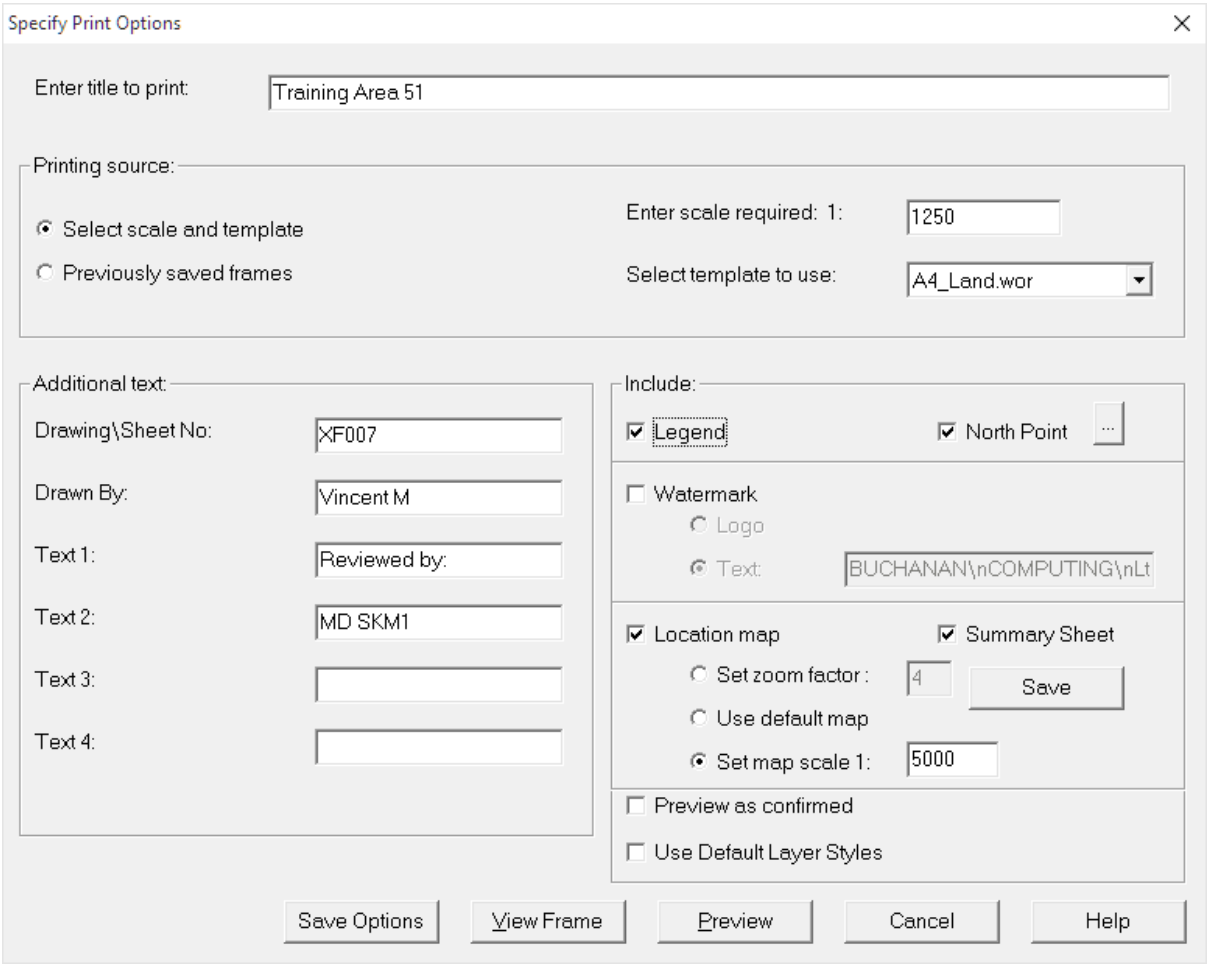
Selected markings are highlighted

To select items within a region use region select and ensure the region is displayed on the map

## 1.4 Formal Printouts

### 1.4.1 Print Preview Options

Several print options are available via **HOME > Print Preview.** The following options will be displayed:



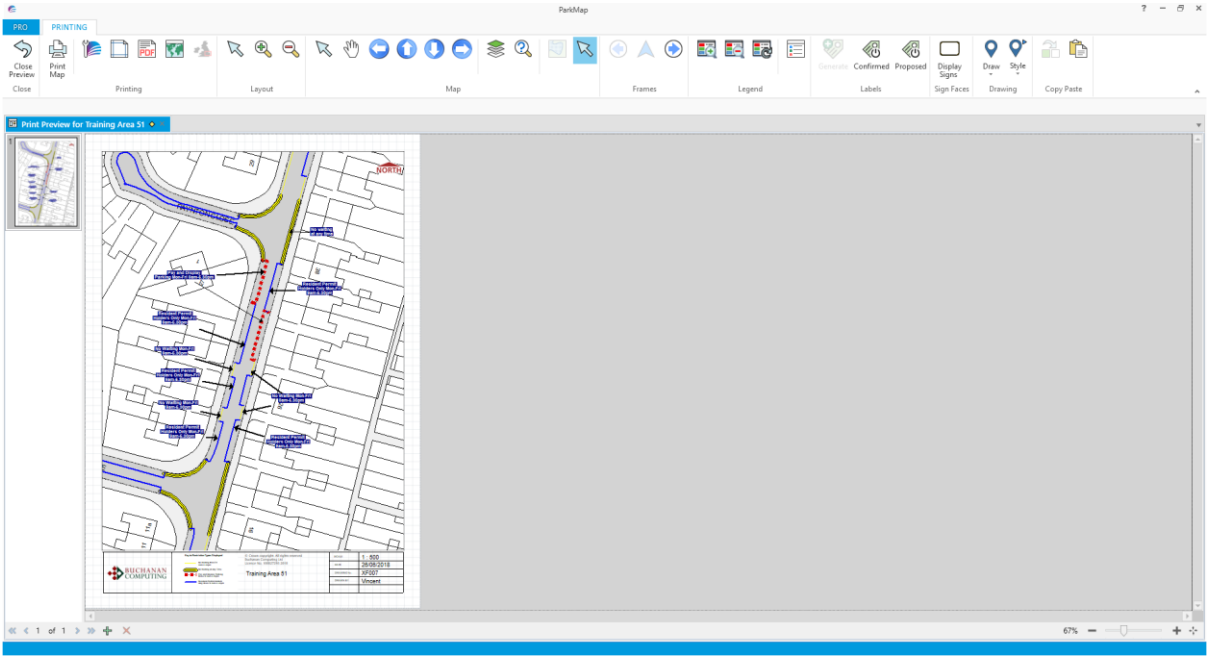

You will be able to enter a title for your printout in the field at the very top of the dialogue.

The Printing Source section allows you to select a scale and template. The scale will always be populated with the default scale value as set within your system settings. This can be overwritten and changed as required. The template drop-down list can be used to select the size and layout of your printout. Templates are available for both portrait and landscape printouts ranging from A4 through to A0.

The Additional Text section allows you to enter additional information to be included on your printout. Specific fields for a drawing number and author are provided, as well as four additional text fields for any extra information you wish to add.

The 'Include' section allows you to select additional extras. You can choose to include a legend window, a north point, a watermark, location map, and summary sheet.

Once your options have been specified click on the Preview button to generate your printout.



If you chose to include a north point, location map, or legend window, these can all be moved as required by clicking and dragging them. Similarly, any other text fields on the print preview can be moved in the same fashion.

### 1.4.2 Print Preview Toolbar

The toolbar at the top of the Print Preview screen includes all the MapInfo drawing tools so you can add any polygons, lines, or symbols at this stage if required.

The style button will allow you to setup how the polygons / lines / symbols will look like before you plot them.

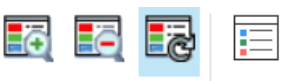
The draw button will allow you to plot either a polygon or a line or a symbol on the preview. Note that the A button will allow you to add additional text to your printout if required.

More options are available to you to improve or save your map print out:

The pan tools allow you to slightly move your print preview in the direction of the arrows on the toolbar.

Alternatively, you can use the grabber to move the print preview instead of the pan tool arrows.

If you still cannot see all the information you need on your print preview, you can change the scale to a bigger one which will effectively zoom out and show more of your mapping. For clarity purposes you might also want to use the layer control button to change or hide certain unnecessary layers that clutter your display.



If you move and resize your legend box, you might notice that the text in the legend is truncated. To fix this, use the legend tool to zoom in and out of the legend box.

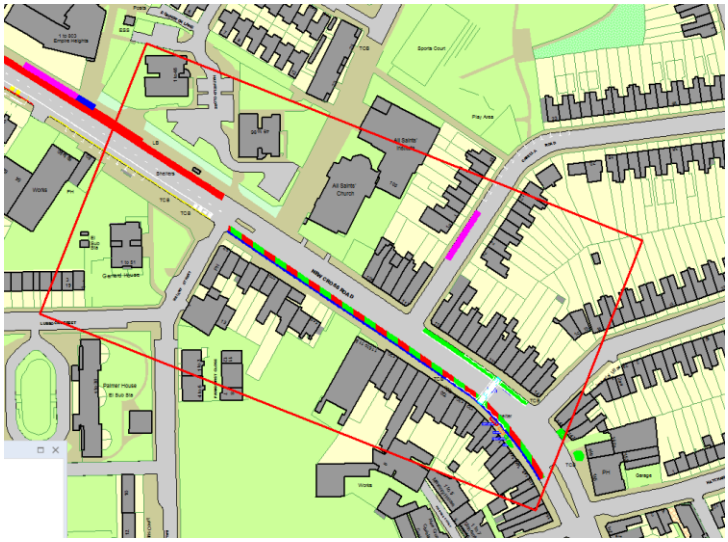
Any labels that was previously saved can be displayed to add further information to your print preview.

Once you've finalised your map, you can either print it, save it as a PDF booklet or export it as a picture format (JPEG, GIF, PNG etc.).

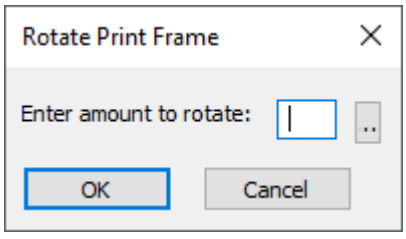
Use the white arrow to return to your LineMap session.

### 1.4.3 The View Frame Option

Within the Print preview dialogue above, you can choose to View Frame rather than go directly to Preview. Using the View Frame option you will be able to see what will be included within the bounds of your print preview. Having clicked on the View Frame button the following screen will be displayed:



The red rectangle denotes what will be included within your print preview. You can move this by clicking and dragging it. Note that in resizing your print frame the scale of your print preview will also be altered. You can choose to rotate your print frame so that your print preview will be rotated using the Rotate Print Frame button .

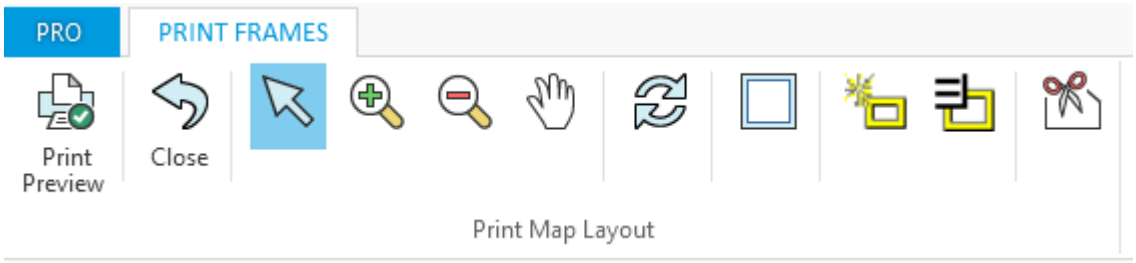



You can manually enter an angle of rotation, or you can choose from a drop-down list using the button.

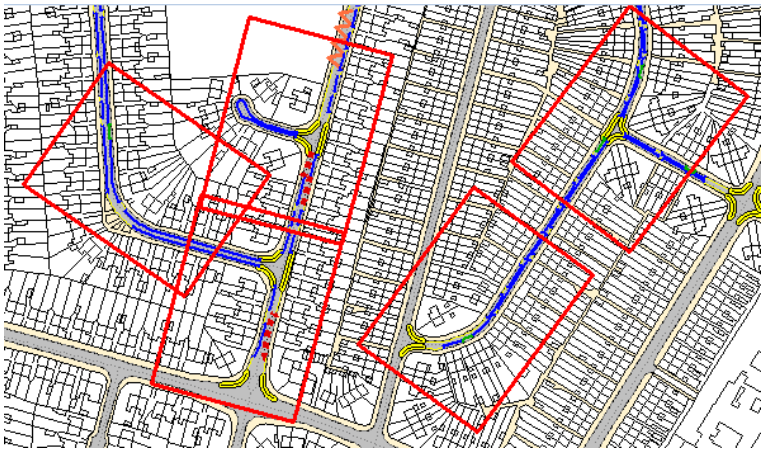
Once you're happy with your print frame click on the Print Preview button to continue to generate the print preview.

### 1.4.4 Printing Several Print Frames

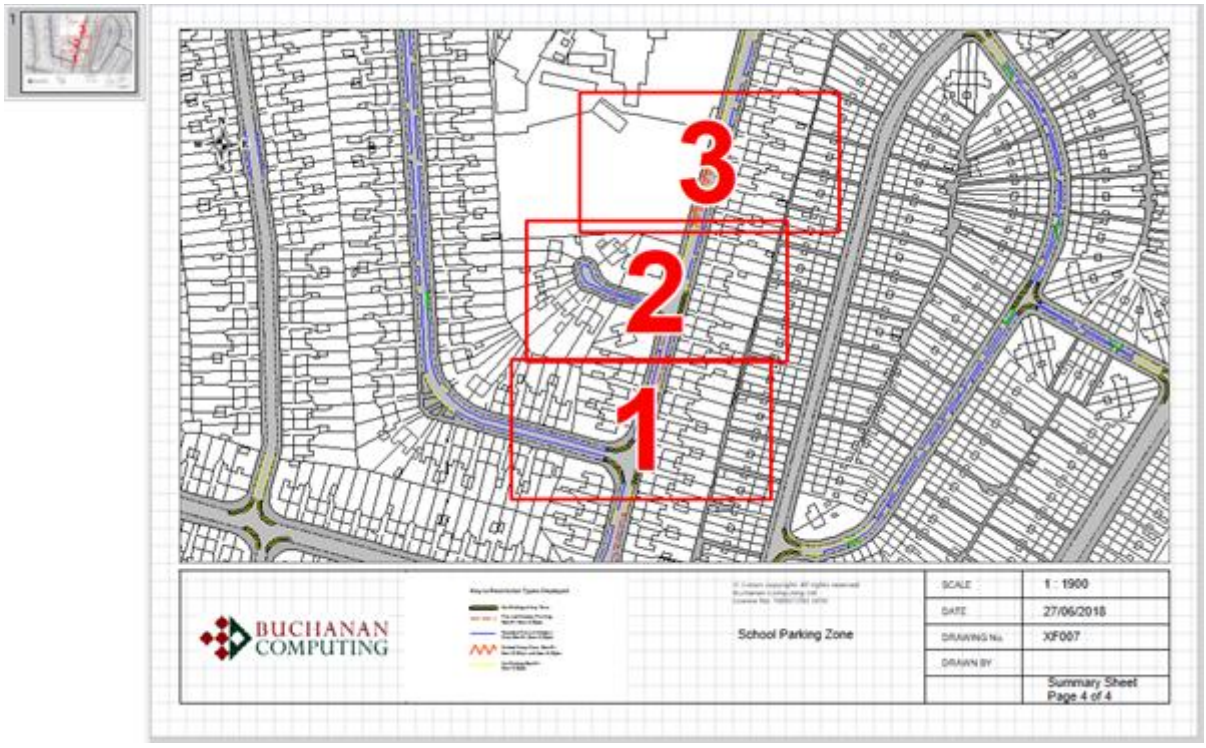
LineMap allows you to generate a print preview of several print frames. Select the View Frame button from the print preview dialogue. The print frames will then appear.



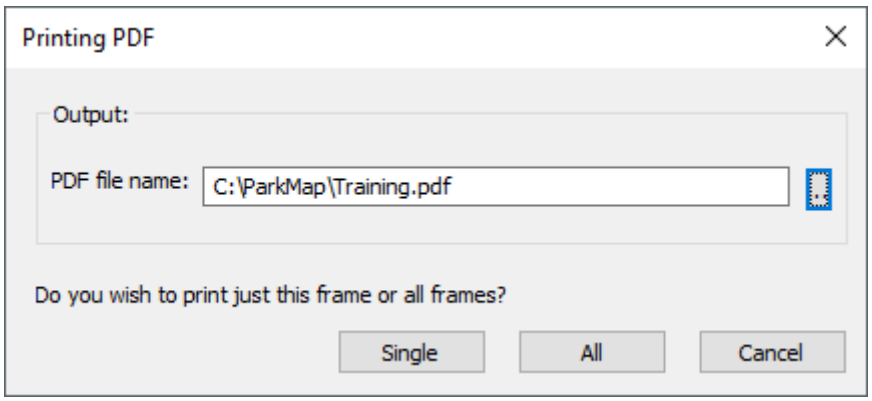

Select the extra print frame button to create additional printout in the preview. Each print frame works independently thus can be individually rotated and moved without impacting on the other frames.



The print preview can be generated using the button. You will then be able to scroll through the pages or jump to each print frame's print preview using the buttons at the top of the screen. If you chose to include a summary sheet, this will appear as the last page of your print previews, displaying an overview of the area that your print frames include.




To create a PDF booklet with all your printouts click on the button and select the directory where you wish to save them:




Make sure that you click on the All button should you wish to save all your printouts and not just the one on display.

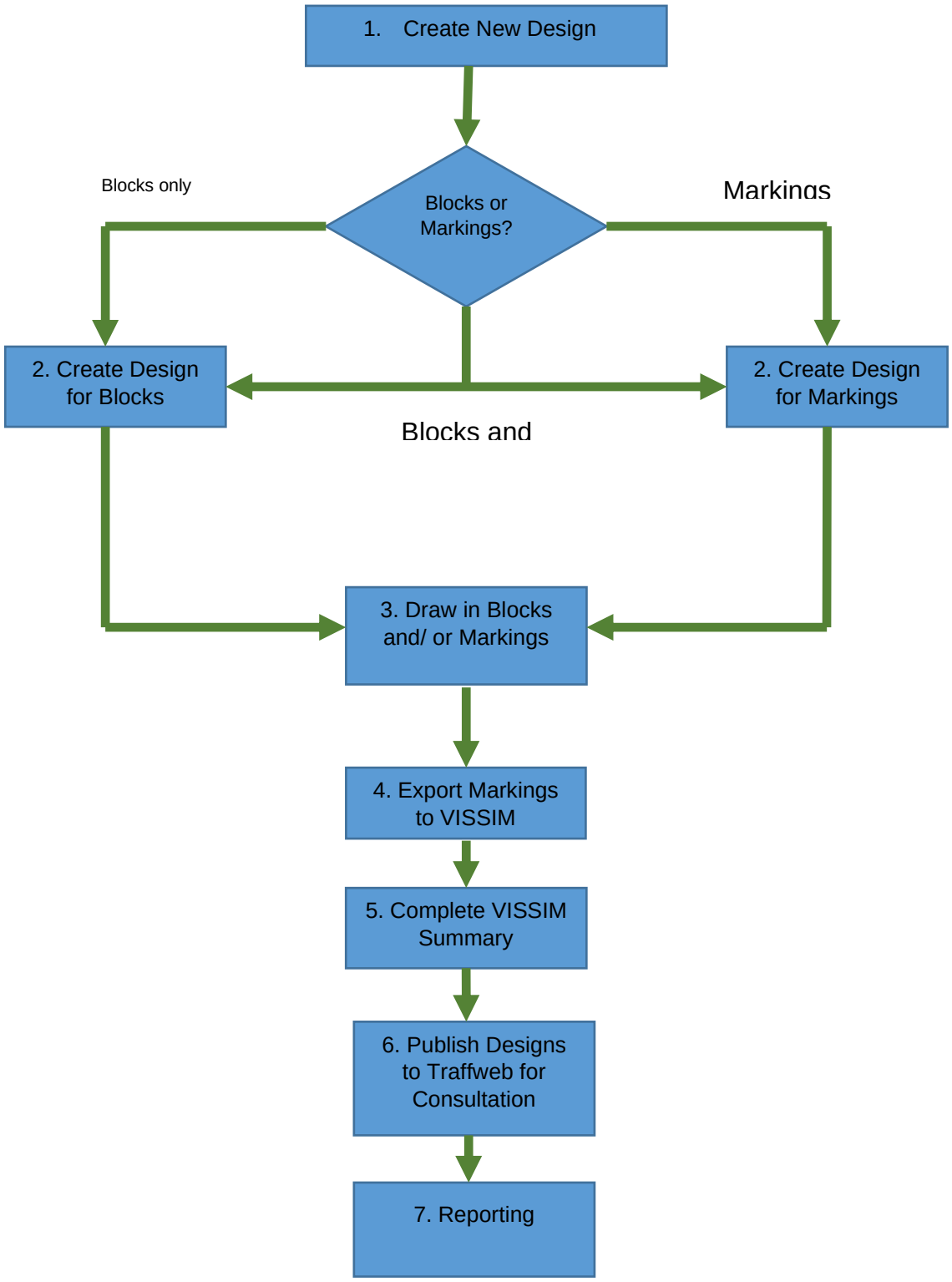
## 1.5 MORE Project Quick Start Guide

This section is intended as a quick start guide for the use of LineMap in the MORE project. It summarises the main tasks required to create designs, publish them to Traffweb and produce project reports. The main tasks are:

- Design Creation using Road Blocks and/or markings
- Traffweb Publishing for Design Consultation
- Export Road Markings to VISSIM
- MORE Project reporting

When creating a design, this can be represented as road use blocks, markings or both blocks and markings. It is recommended that you keep blocks and markings as separate designs, so if you intend to use both for consultation you will need to create 2 designs, one for each representation.

The diagram below summarises the steps you need to take to create a LineMap design for the MORE project:



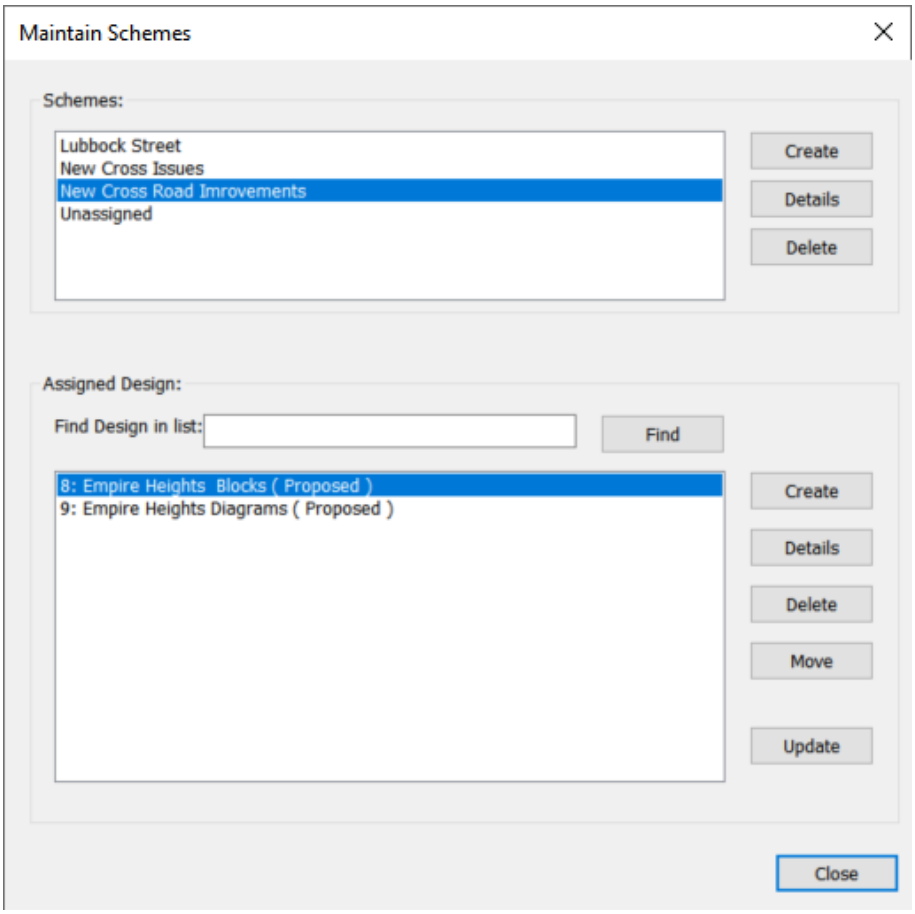
### 1.5.1 Design Creation

**Step 1: Create a new Design**

To start the process of creating a new design you need to be in edit mode so click on the

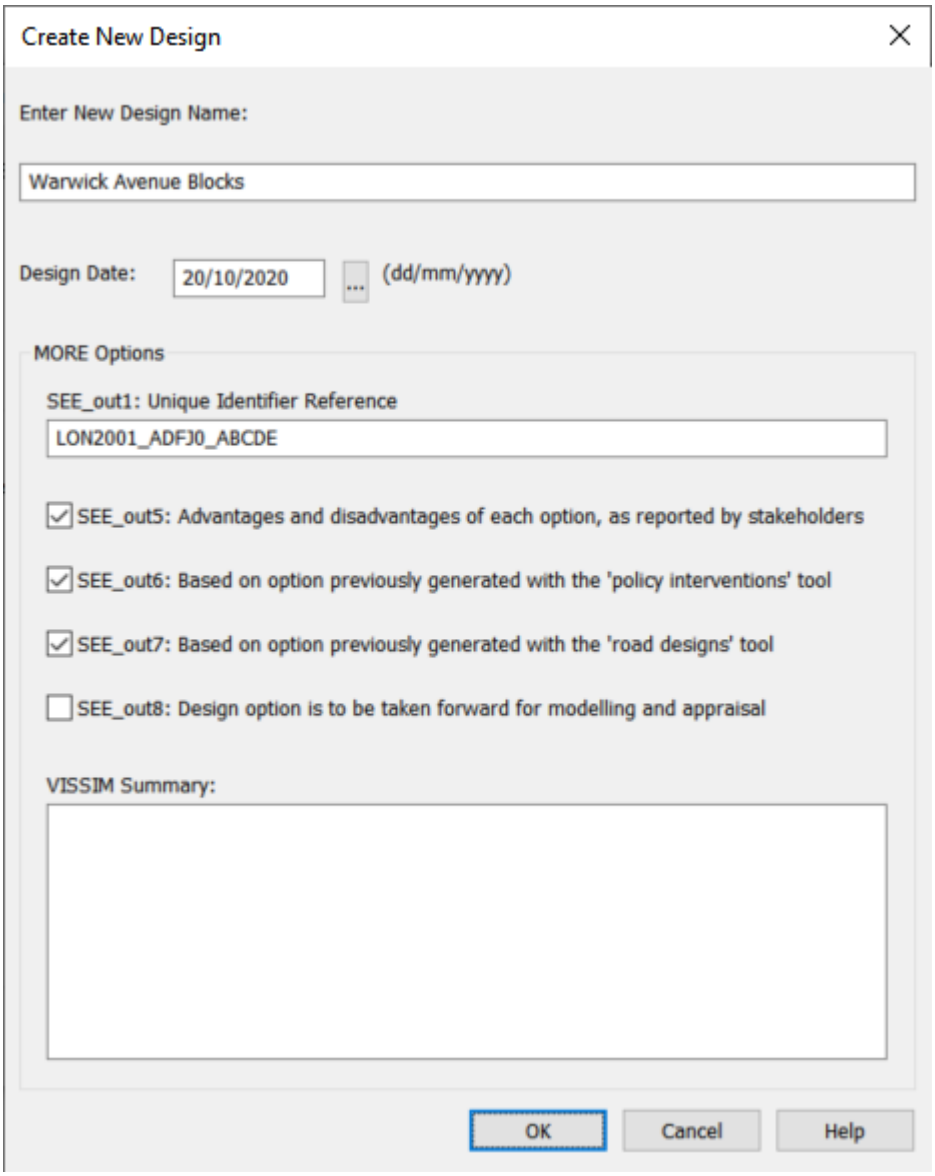
**HOME > Security** padlock icon:

Enter the edit password (this is blank by default) and the padlock icon will change to an open lock see 2.1.1 Entering Edit Mode. The schemes dialog will then appear. Each design belongs to a particular scheme. So first select the scheme:

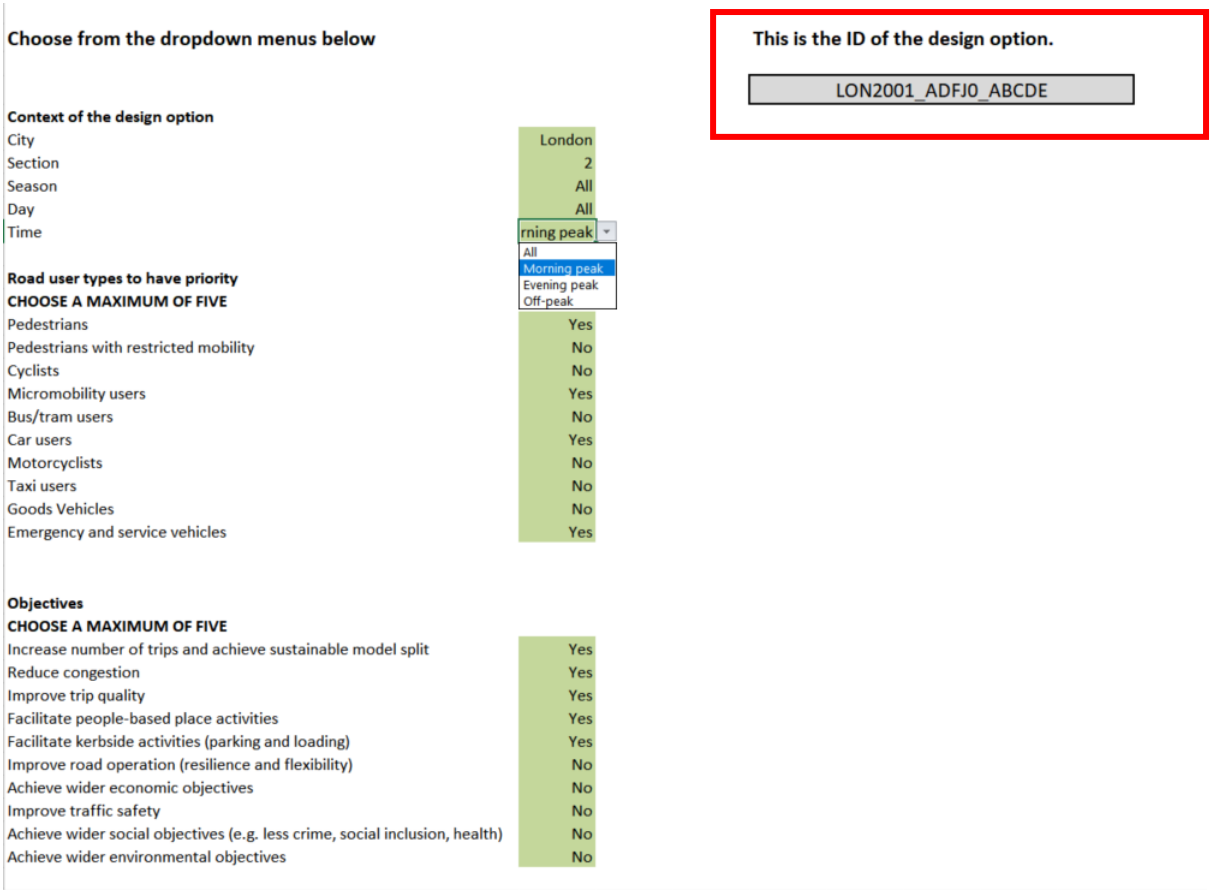



Next click Create under Assigned Designs to display the New Design dialog:

**Step 2: Create Design for Blocks**




a) Enter a Design Name based on the study area and section and add the word ‘Blocks’ at the end of the name
b) Enter todays date as the Design Date
c) Using the MORE UID Spreadsheet (MORE_UniqueIDGenerator.xlsx), generate your unique identifier reference number for your design by choosing the relevant options:




d) This will generate a unique design ID highlighted above. Copy and paste this into the field SEE_Out1 Unique Identifier Reference.
e) Check any relevant Design Options for the fields SEE_out5 to SEE_out8.
f) Click OK to save the design.

**Step 2: Create Design for Markings**

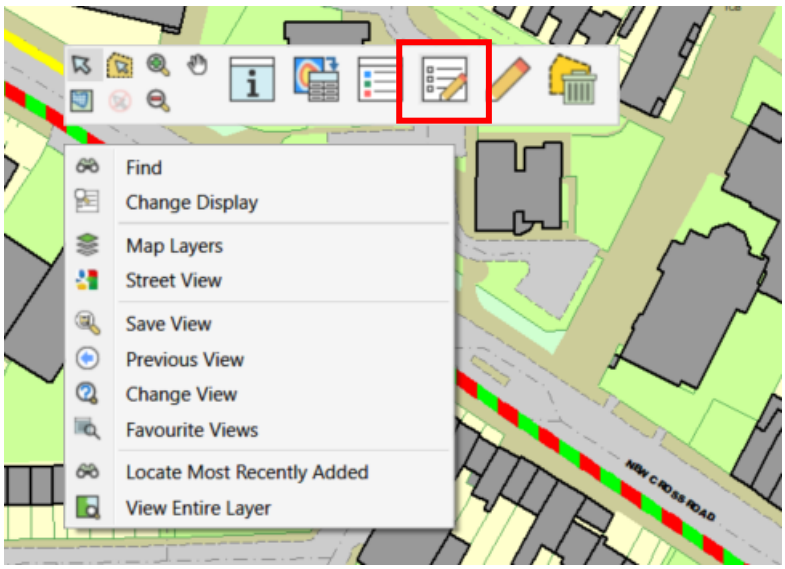
If you are going to produce Road Markings for your design:

a) Enter the Design Name with the word 'Markings' at the end.
b) Enter the same information for steps (b) to (f) from the design for blocks

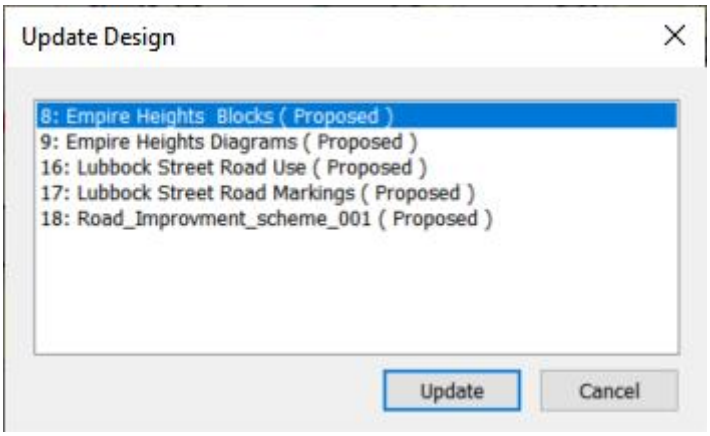
Having two separate designs for Blocks and Markings will make it easier to create designs quickly and allow stakeholders to switch between the two views in Traffweb.

**Step 3: Draw in Blocks or Markings**

a) To draw in Blocks make sure you are editing the correct design. The quick way to do this is to right click on the map and choose Update Design:




Choose the design and click update to begin:

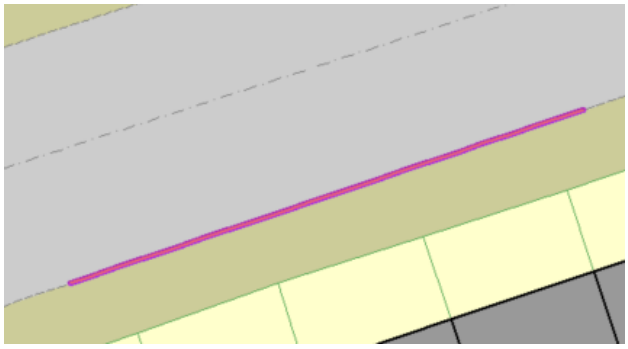



b) To draw the Road Use blocks, see 2.2.4.2 Diagrammatic markings

i. Choose your Road Blocks design for Update.
ii. Position the map display in the area you want to create the road use block
iii. From the explorer window select the type of block you want to create:

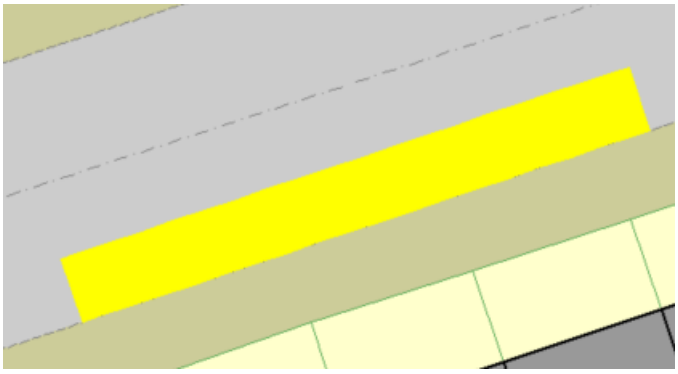
iv. To follow a kerb line, use the tool on the Designs Tab to plot the start and end points,

then click to create the guide line:



v. If there is no kerb line you can draw the guideline using the tool.

vi. Once the guide line is displayed as above, click on plot to generate the block:



vii. If the block plots on the wrong side of the kerb, right click on the map and choose the select tool. Click on the block to highlight it then click to replot the block.

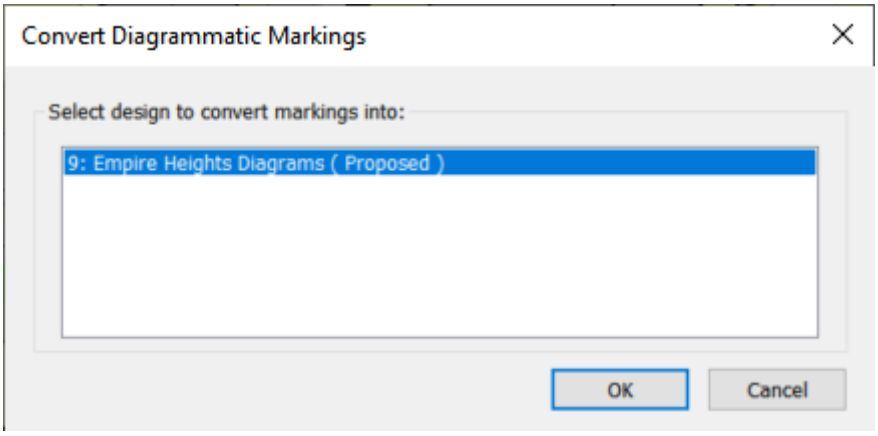
c) To create Road markings you can either draw these directly into the Road markings (see 2.2 Using the guidelines to draw markings) design or generate them from Road Use Blocks. To generate markings from Road Use Blocks:

viii. Choose your Road Blocks design for Update and view entire layer.

ix. Using the select arrow (right click on the map and choose )

x. Highlight the Blocks you want to convert to markings. Hold shift to select multiple blocks:

xi. Then click on DESIGNS > Convert to Diagrammatic:




xii. Choose the Design your 'Markings' design and click OK

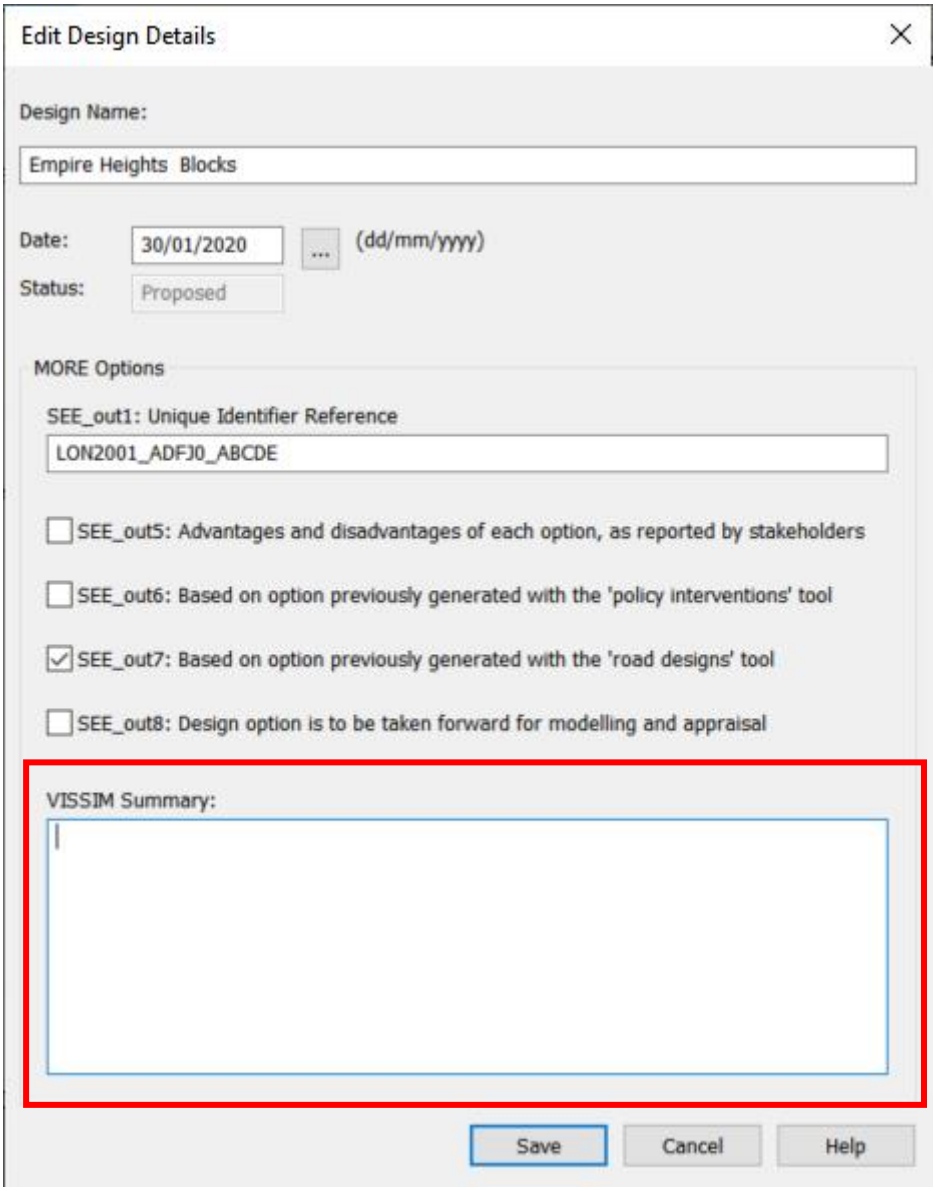
If you select multiple markings to convert you may be asked to choose parameters for each marking type. Enter any parameters and your markings will be generated, see 2.2.4.2 Diagrammatic markings for further information.

**Step 4: Export to VISSIM**

To export your markings to VISSIM see 3.1.3 VISSIM Export

**Step 5: VISSIM Summary**

Once you have modelled your design in VISSIM you need to summarise the model. Go to SCHEMES > Maintenance. Select the relevant design and click Details:

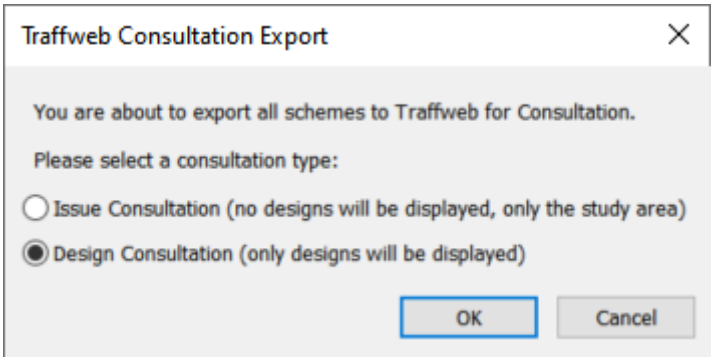



Enter the summary text in the box highlighted above and click OK. It is recommended you do this before publishing the design to Traffweb.

**Step 6: Publish Designs to Traffweb for Consultation**

To publish your designs to Traffweb, click on the Admin Panel on the Ribbon and Choose Traffweb under the export section:

A dialog will appear giving you the option to publish for Issue Consultation or Design Consultation. Choose **Design** consultation, then click OK:




Your designs will be sent to the Traffweb server. Traffweb checks every 2 hours for new designs so there may be a delay before your latest designs are made live.

### 1.5.2 MORE Project Reporting

For Step 7 in the process you will need to generate specific reports on each design. LineMap reports have been formatted to ensure that they comply with the MORE project 'Instructions for Data Provision' document. For each design in LineMap you will need to create:

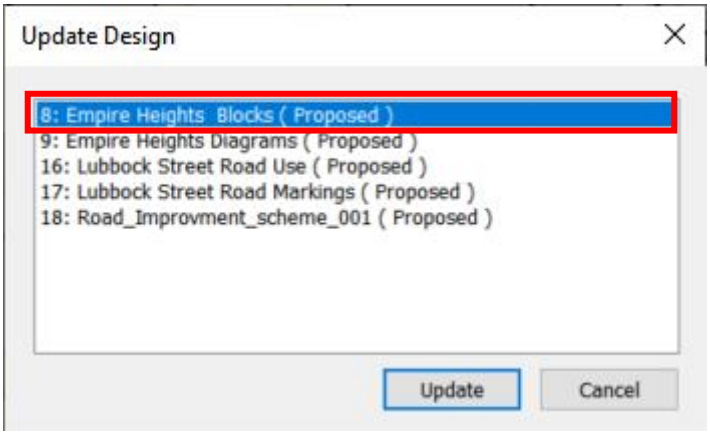
- A printed report summarising the road use blocks or markings
- A Design Plan

**Design Plan**

a) To print the design you must first select it for update:

i. Right click on the map:

ii. Then select the design you want to print:




iii. Right-click on the map and choose 'View Entire Layer'

iv. Select the design from the list (it should appear near the top) and click OK to centre the map on the design.

v. Next choose HOME> Print Preview.

vi. Choose either Portrait or Landscape to suit the Design and click OK to generate the print.

vii. The Design Name and ID will appear on the print.

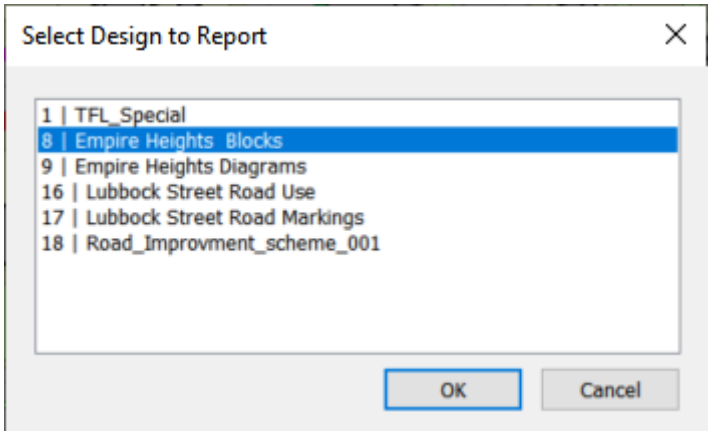
viii. Finally Save the print as a PDF file by clicking on the

button.

**Printed Report**

a) Click on the REPORTS Tab then click 'Single Design'

b) Then simply select the design from the list and click OK:



c) A document ‘MORE_LMReport’ will be produced. Choose FILE> Save as to save the report in the required format. By default the report will be produced in Open Document Format (ODT)

# CHAPTER 2: GENERATING DESIGNS


2.1 Overview of the basics ..... 32
2.1.1 Entering Edit Mode ..... 32
2.1.2 Summary of Processes ..... 32
2.1.3 Creating a scheme ..... 32
2.1.5 Create a new design ..... 34
2.1.6 Selecting Designs for Update ..... 35
2.1.7 Marking/Diagram Number selection ..... 35
2.1.8 Refine Marking/Diagram Number selection ..... 36

2.2 Using the guidelines to draw markings ..... 38
2.2.1 Guidelines principle ..... 38
2.2.2 Road markings (level 1) ..... 38
2.2.3 Road markings (level 2) ..... 47
2.2.4 Other type of markings ..... 56
2.2.5 Defining a Time of Enforcement ..... 59
2.2.6 Create a new route ..... 60
2.2.7 Attachments ..... 61

## 2.1 Overview of the basics

### 2.1.1 Entering Edit Mode

In order to add or amened data in LineMap, you must enter the edit or supervisor mode. This can be done by selecting the padlock button , where you will be prompted for a password. Enter your Edit mode password and click OK to continue. The padlock will unlock to indicate you are in the correct mode .

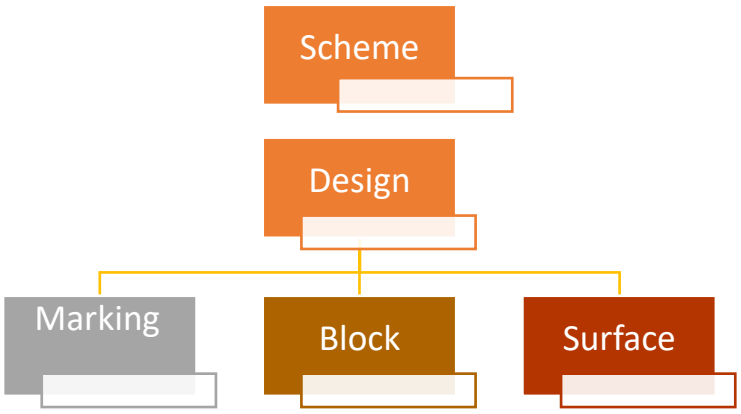
### 2.1.2 Summary of Processes

In order to create new markings within LineMap the processes required are summarised below:

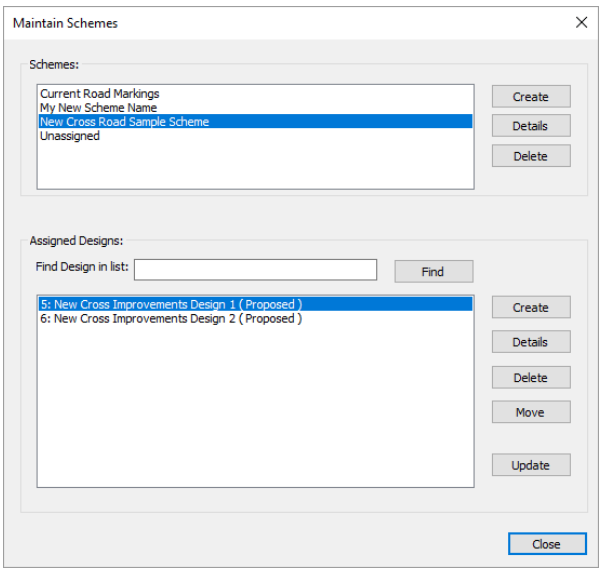
1. Create new scheme/or select existing scheme for update (Chapter 1)
2. Locate the area of street required by moving around the map (Chapter 1)
3. Select Diagram number for marking to plot
4. Allocate dimensions/text for required marking
5. Generate guideline (Chapter 1)
6. Select the guideline/s (Chapter 1)
7. Plot the marking

### 2.1.3 Creating a scheme

Before you can start entering new markings in LineMap, you will need to create or use an existing scheme. Schemes can be made of many marking designs or can be created specifically for one design. In terms of hierarchy within your system, it follows the following structure:

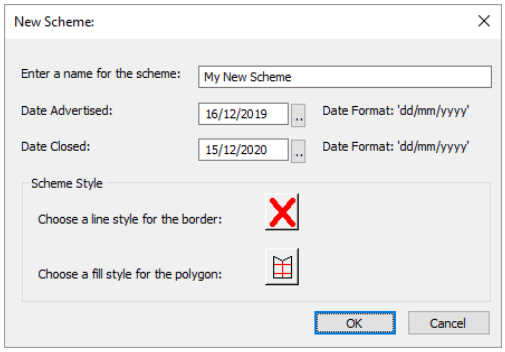



Once you enter edit mode the following dialogue will appear:




You can also show this dialogue using the tab **HOME > Schemes**
You can manage (create, delete or see more details) all schemes in your system from this dialogue. To create a new scheme just click on the Create button. You will then switch to the map display and be prompted to draw a scheme rectangle. This defines the extent of the scheme for Issue Consultation.

Click and drag holding the left mouse button to create a scheme area. Release the mouse button when finished and the following dialogue will display:

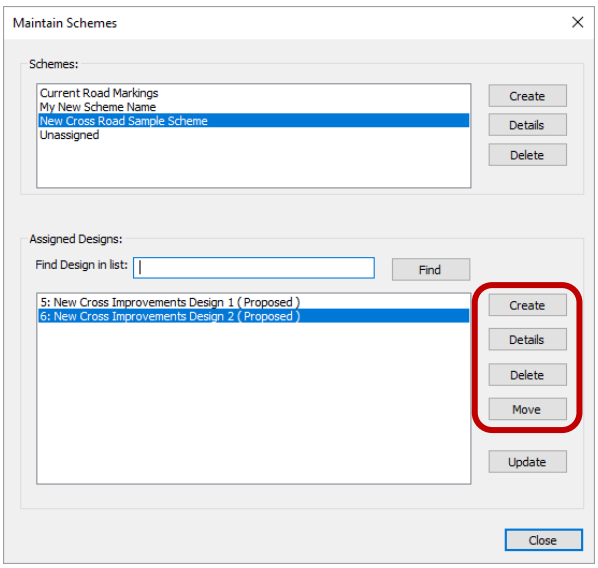



Enter a scheme name and alter the advertised and closed dates if required (this can be done later). Click OK to create the scheme and it will be displayed on the map.

Note that you cannot delete a scheme that contains designs

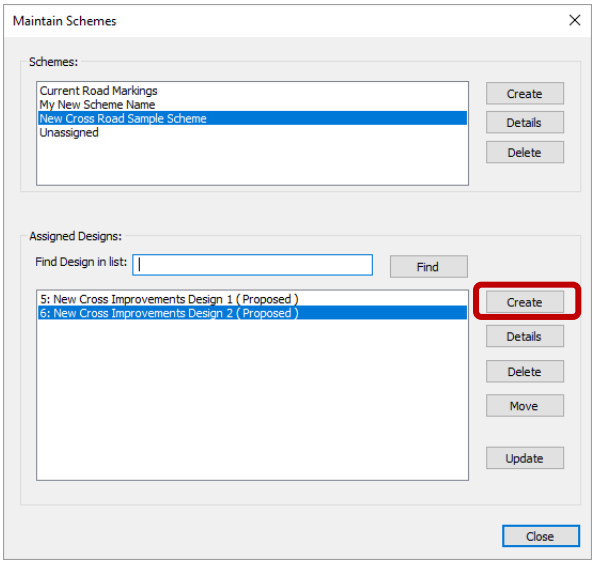
### 2.1.4 Managing designs within a scheme

Each design created in LineMap will have to be part of a scheme. Should you have more than one scheme setup, you can transfer or move designs from one scheme to another. Alternatively you can delete a design or check its details by clicking on the Delete or Details button in the Assigned Designs part of the dialogue:

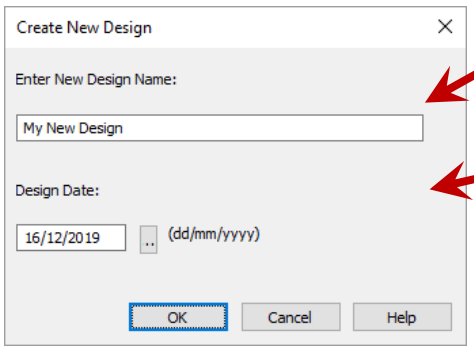



### 2.1.5 Create a new design

Within the Maintain scheme dialogue, select the scheme you wish to work with and then click on Create in the Assigned Designs part of the dialogue:




You will then be asked to provide further information about your Design:

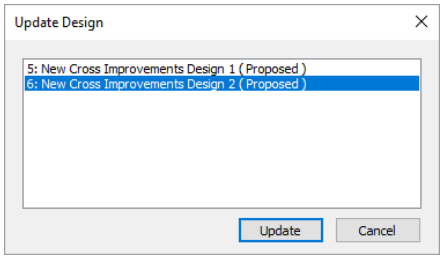



Enter a short description in the first field. This is often the TRO reference number. This field is the only compulsory field within the dialogue.

Enter a design date using the button.

### 2.1.6 Selecting Designs for Update

You can select a design for update by selecting it from the Maintain Schemes dialogue and then click on Update or via the tabs **DESIGNS > Update.**

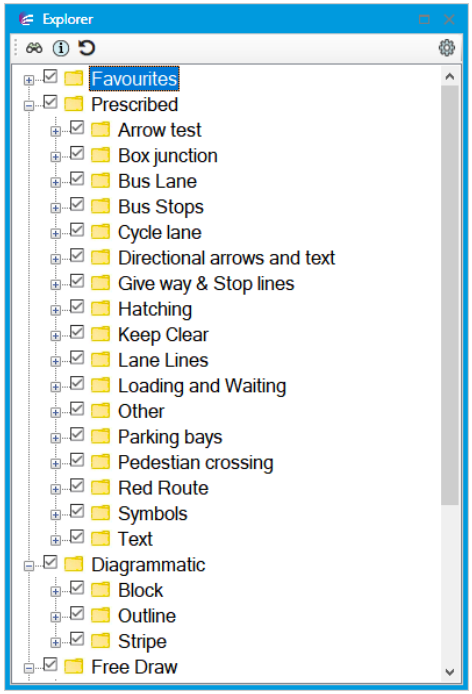



Select a design from the list, click OK to continue. Make sure you are working on the selected design by checking the bar at the top of the map:

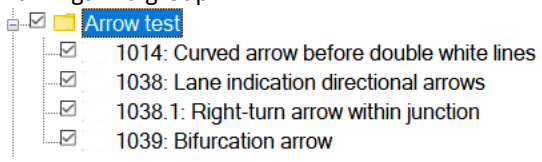
Alternatively, you can right click on the map and click on the Select design for update button:

### 2.1.7 Marking/Diagram Number selection

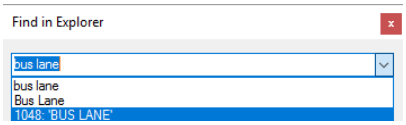
Once a scheme is editable, you can select a new marking to plot via the explorer window:



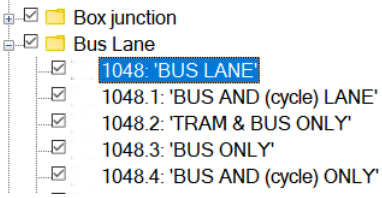

Click on the ⊞ or double click on a folder to view available markings in a group:




You can search for a marking by clicking 🔭 and entering some text then press enter:




Choose the marking required and the explorer will select the item:

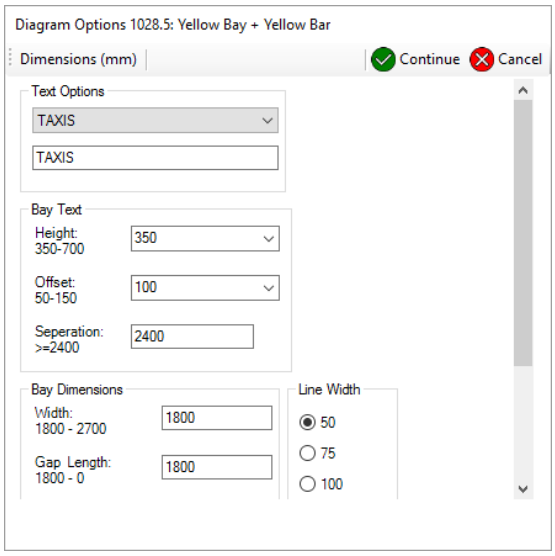


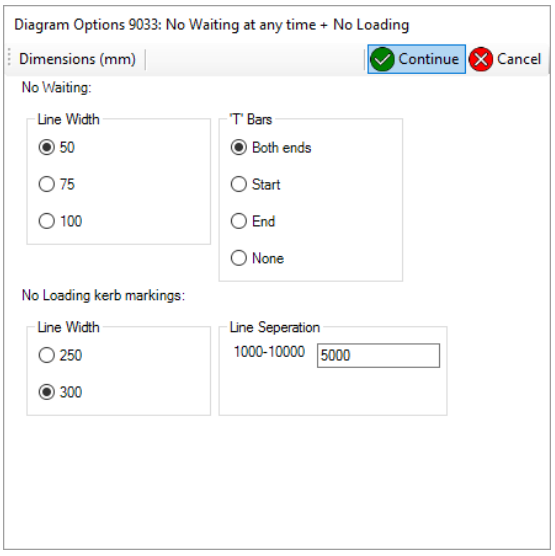

Markings that do not have a TSRGD reference number (or diagram no) but are prescribed by other regulations are included in this listing distinguished by their 'TSRGD' numbers greater than 9000.

### 2.1.8 Refine Marking/Diagram Number selection

Having selected a marking in the explorer click on the item to display the applicable options for that selected marking, such as line width, text height, arrow or symbol icon.

Examples:



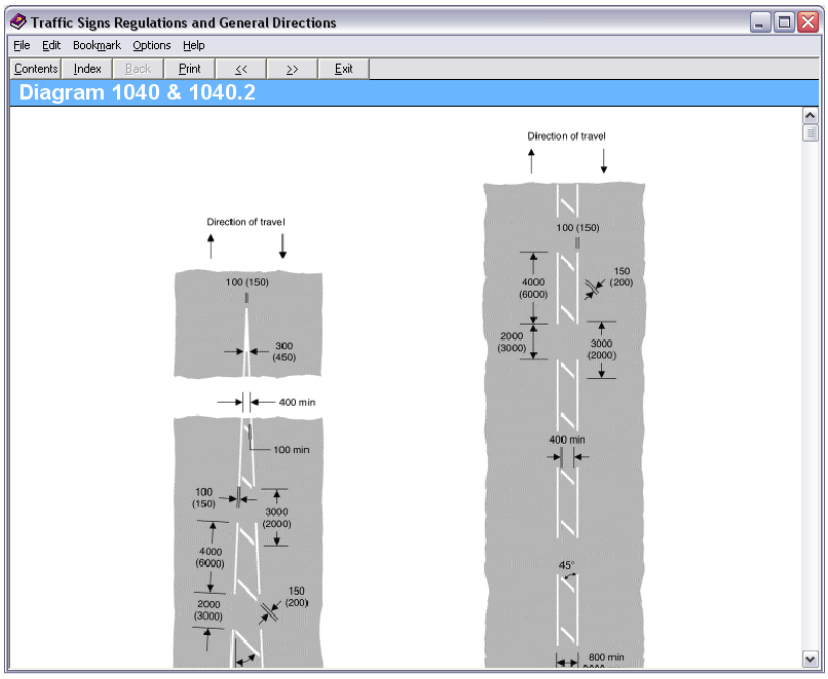




The default dimensions are automatically set. These can be amended, by selecting the dimensions, arrow

type, text options and/or any other relevant information required in order to generate the required marking.

For further guidance on the defined requirements for a particular marking, the TSRGD drawings may be viewed by pressing the 'TSRGD Manual' button on the LineMap Backstage.

Example:



## 2.2 Using the guidelines to draw markings

### 2.2.1 Guidelines principle

Guidelines tools

Guidelines are used to define construction lines from which the road markings are generated. They can be found on the **DESIGN** Tab. They may be drawn freehand by the user or based upon any selectable linear item on the base map. Any number of guidelines can be drawn in the construction process. Only selected guideline/s will be used to generate associated marking. All markings will require one main or 'orientation' guideline in order to be generated. Some markings require additional guidelines to assist with outlining the limits or region extents of the marking.

The location of the guideline in relation to its resulting marking will vary depending on the type of marking plotted. Some markings are centred about the guideline; others are automatically offset to one side of the guideline. The direction of a guideline when drawn is important as it can govern the position of the result marking (see figure below).

### 2.2.2 Road markings (level 1)

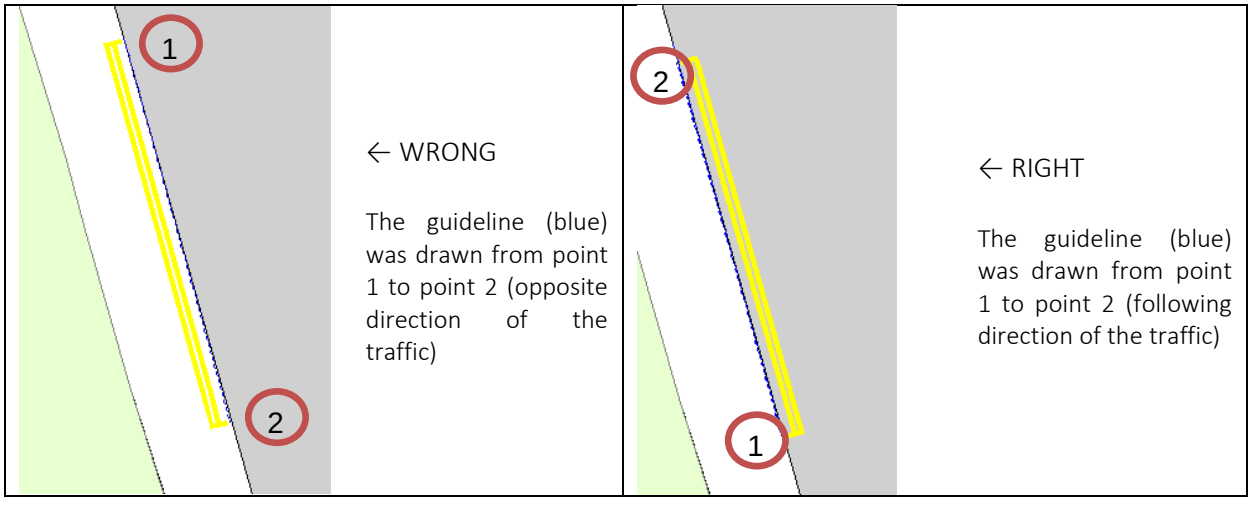
#### 2.2.2.1 Single and double yellow lines

Drawing single or double yellow lines can be achieved by using a number of different guideline tools.

*Freeform guidelines*

If you choose to use the freeform guidelines tool , click on the button to start, then draw the guideline on the map by plotting its nodes, double clicking to end the line. Once the guideline has been drawn, use the 'Select' button to highlight it and then press the 'Plot' button .

The guideline needs to be drawn following the direction of the traffic flow, in order for the marking to be placed correctly.

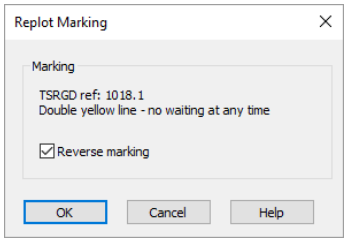


If you make an error and draw the restriction on the wrong side of the kerb line, you can either:

Right click anywhere on the mapping and select 'Clear guidelines'

Toggle on the 'template line for scheme button' , the template line is a copy of a proportion of the originally guideline used to plot the marking. The default colour of this line is red.

Select the red template line And click on the re-draw button , the following dialogue box will appear:



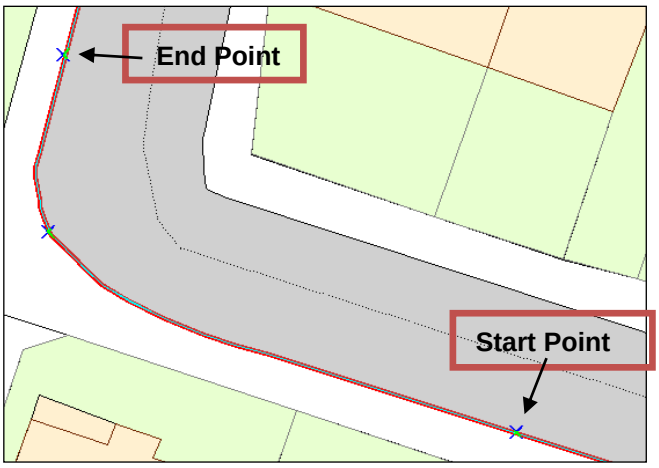

Make sure that 'Reverse marking' is ticked and click **<OK>** or, delete the road marking, by selecting it using the delete button . Then redraw the guide line and plot the marking.

*Generating Guidelines from existing Map features*

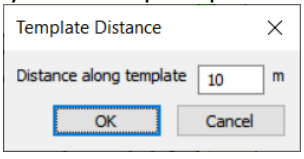
If a guideline should follow an existing base map feature, such as a kerb line, you can use the 'plot points for route' guideline . Simply click on the button, click where you want your guideline to start and click where your guidelines is supposed to end along the same map feature (kerb line).

You can click as many times as you want along the map feature between the start and end point for very long map features.

Once the start and end points have been placed, press the 'Generate template' button and a guideline will be drawn between these points following the lines selected.

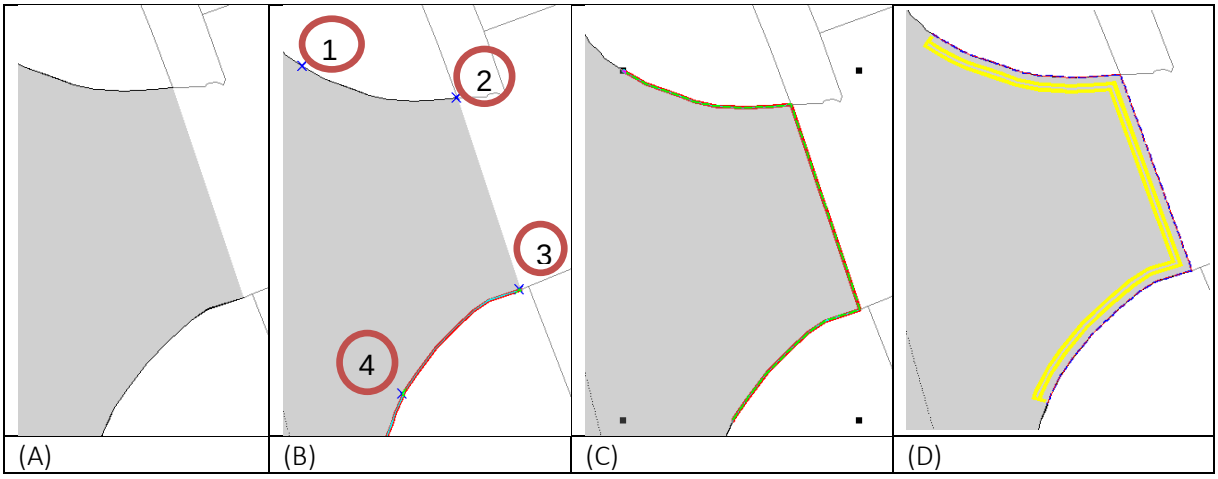



If a specific distance along the kerb line is required, select the start point and an end point which should be separated from the start point by a distance equal or greater than the distance you want to specified. Press the third 'Generate template' button and you will be prompted for the required distance.

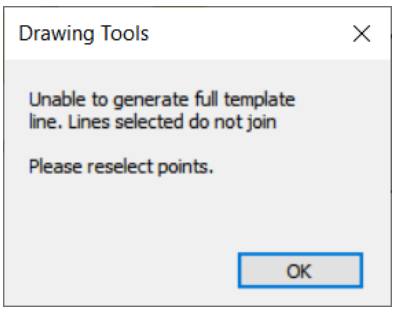


These tools can be used to create continuous guidelines even if the map features are not continuous (see example below). Example:

If you want to draw a restriction over a part of the drawing where there is no kerb line (A), the 'plot points for route' guideline tool can be used. Draw the four guideline points as represented below (B) but ensure that you press **<Ctrl>** while drawing the guideline point number 2. Press the 'Generate template' button and the guideline will be created (C). You can now draw your restriction (D).



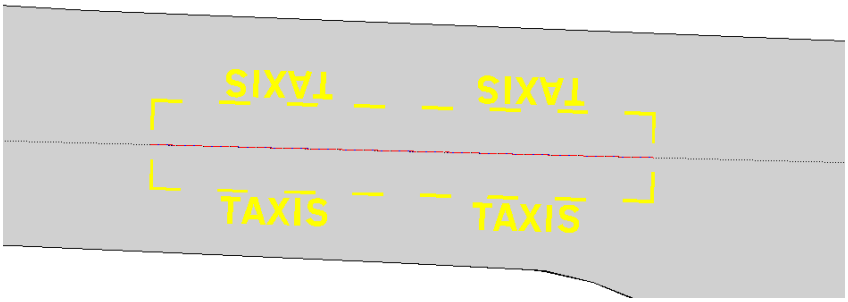

If you do not press the Ctrl key while drawing the guideline point number 2, LineMap would not be able to jump between points 2 and 3, and the following error will be displayed:



### 2.2.2.2 Parking bays

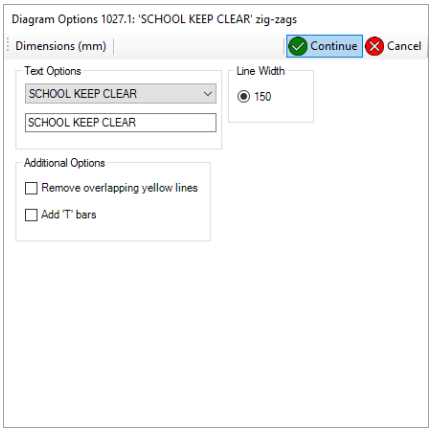
These markings can be displayed with or without text and may be yellow (1028.4, police, taxis etc.) or white (1028.3, 1028.4 disabled, doctor etc.) and can be situated centrally or along the roadside.

Plot a guideline along the kerb line or the centre of the road depending on the restriction that you wish to draw. The marking will ultimately be generated to fit the full extents of the guideline and any required text will be outlined on each side, as many times as it can be fitted in along the length of the bay (according to separation limitations).
Examples:

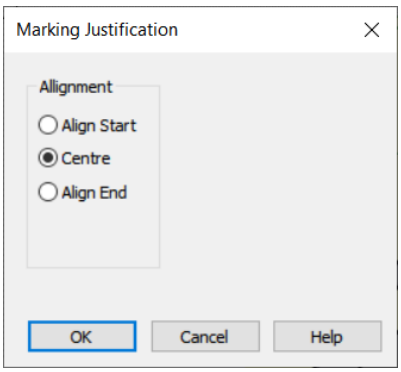



### 2.2.2.3 School keep clear

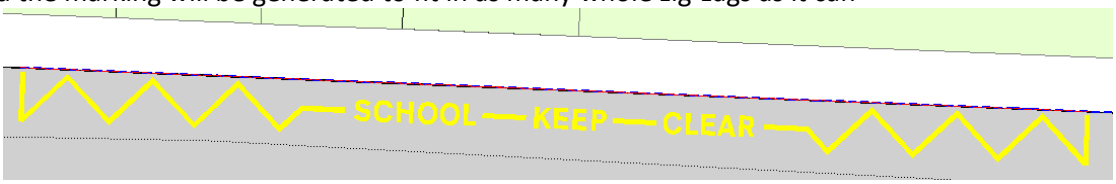
This is a kerbside marking which means the guide line is generated along the kerb line and the resulting marking will be offset from this.
Select the school keep clear marking from the markings tool bar and specify the relevant text required:



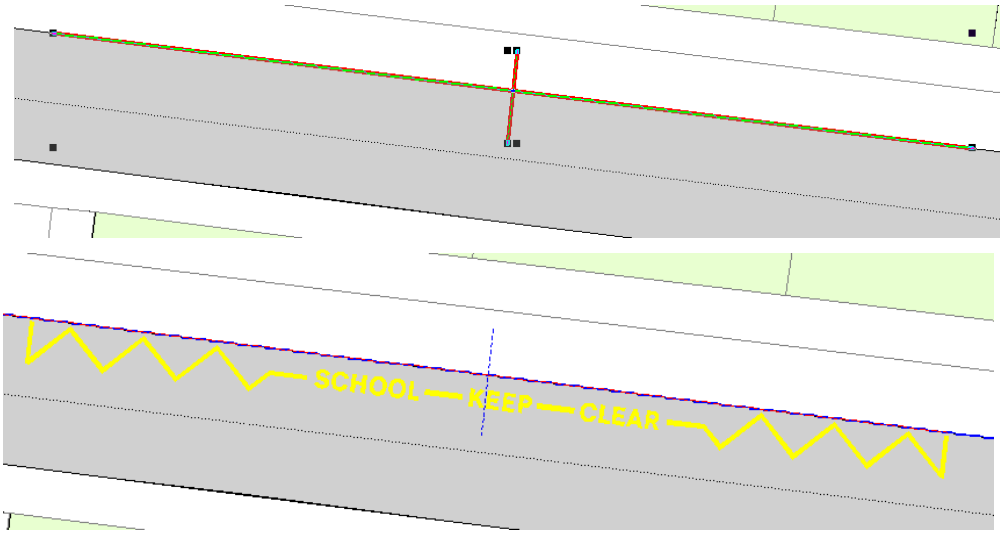

Generate a guideline along the kerb in the direction in which the marking is to be generated (i.e. as if you were driving along the left hand side of the road) as the marking is generated it will be offset from the guideline automatically.
A school keep clear marking will not fill the guideline completely. According to regulations, its length will be rounded to the nearest number of whole zig-zags up to a maximum of four on each side of the text. The marking can be generated in one of two ways:
Using a single guideline – Select the guideline and click on plot marking tool. You will be prompted to select the alignment of the marking:




and the marking will be generated to fit in as many whole zig-zags as it can

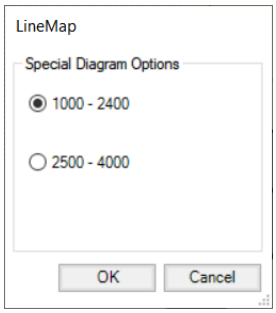



Using two guidelines – A centralising guideline which is a second shorter guideline crossing the main one can also be used to specify the midpoint of the resulting marking. This could be useful if it is intended to plot a school keep clear marking centred around a school entrance for example. Select both guidelines and plot the marking (holding down the **<Ctrl>** key allows multiple selections).

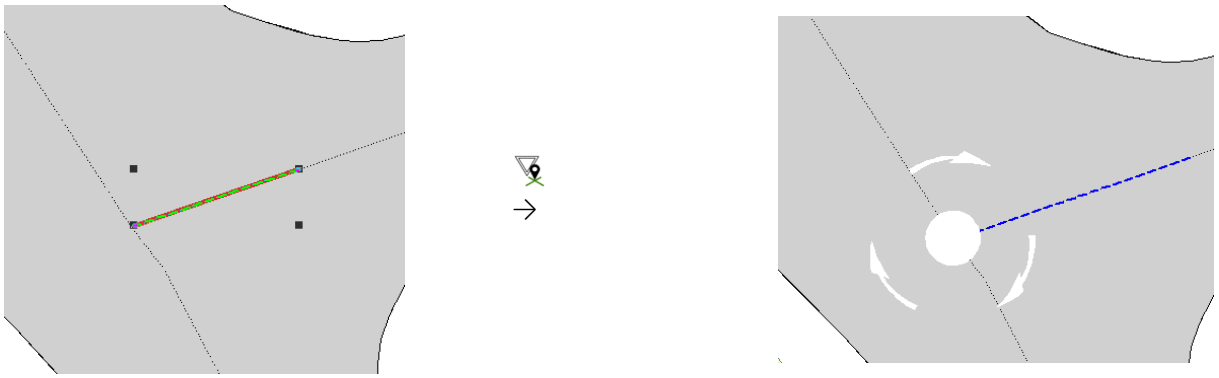


### 2.2.2.4 Mini roundabouts

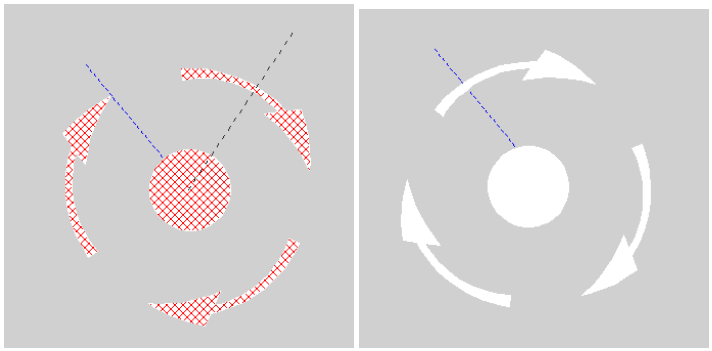
Select the mini roundabout marking from the markings tool bar and specify the relevant dimensions required. Generate a guideline along the road centre line.




Once the size of the roundabout is defined, draw a guideline from the desired centre of the mini-roundabout toward any direction and click on plot marking tool.



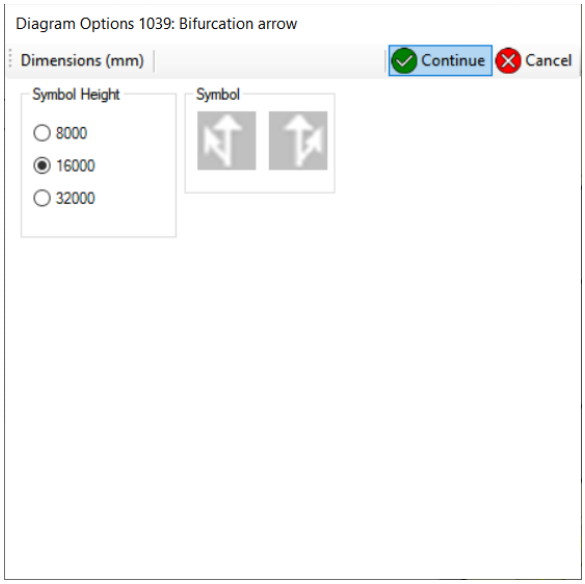
You can rotate the marking by selecting it and clicking on the rotation tool. The angle created by the line drawn (dashed line on the example below) from the original guideline will define the angle of the rotation.



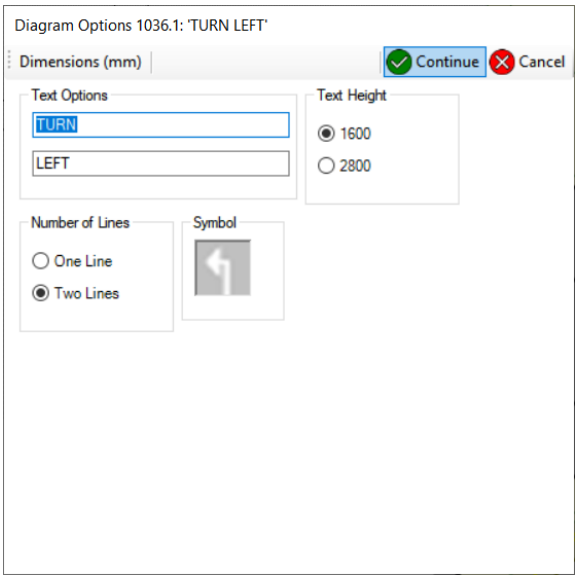
### 2.2.2.5 Directional arrows and text

This is a manually defined marking which means the guide line is generated according to the user preferences.

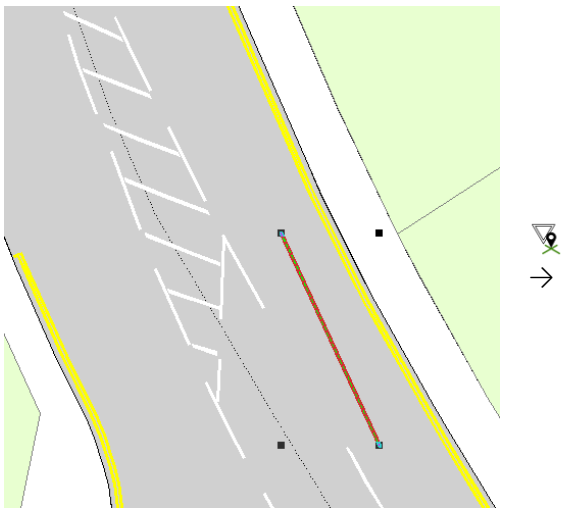
Select the adequate directional arrow marking from the markings tool bar.

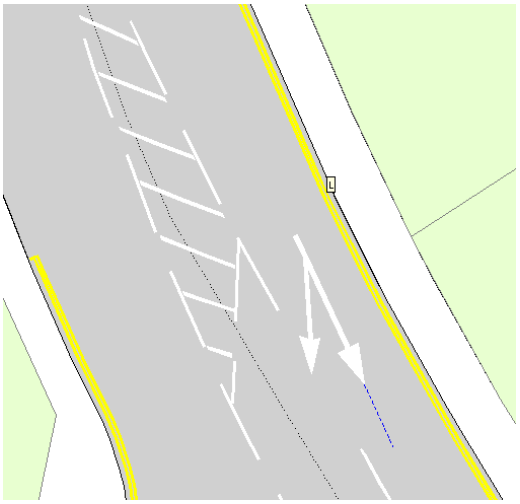



or




Use the freeform guideline tool to draw the direction of the arrow. The road marking will be drawn from the beginning of the guideline and the distance will vary according to your specifications.

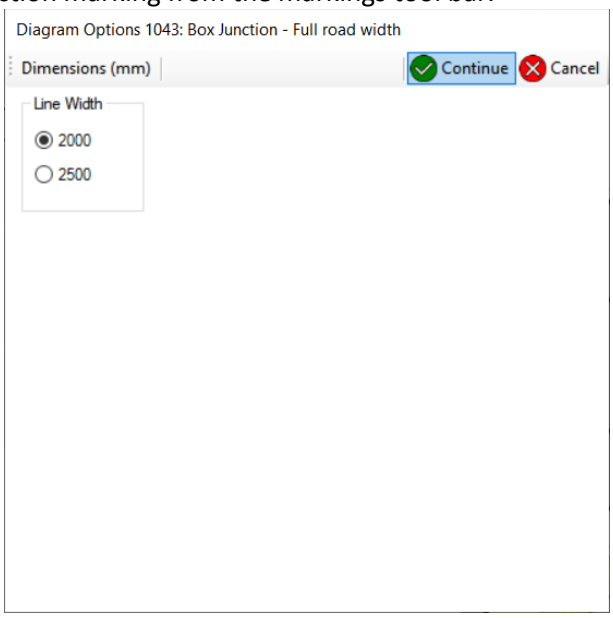




### 2.2.2.6 Box Junction

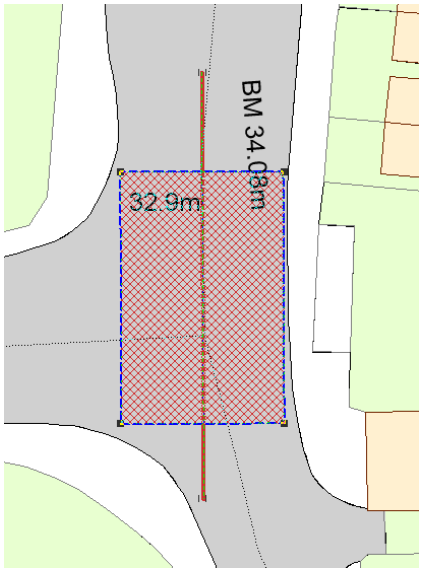
For markings with shapes requiring 'Hatching', the system often requires two guidelines: a boundary line, and an orientation guideline. The orientation line is used to generate a region of diagonal hatching and the boundary line defines the area of required hatching.

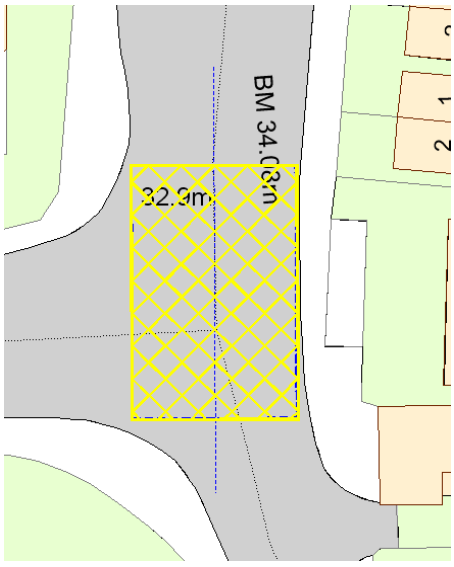
Select the adequate box junction marking from the markings tool bar.




You could produce the same box junction without drawing an orientation if you proceed as follow:

- Select the adequate box junction marking from the markings tool bar
- Draw a boundary guideline using the free-form guideline tool but double click on the last point forming the region (this will allow LineMap to close the polygon that you are drawing and consequently create a region)
- Use the freeform guideline tool to draw the orientation guideline.
- Both features (orientation guideline and region) need to be selected in order to plot the marking. Highlight the guidelines using the select button, holding **<Shift>** at the same time to select the region.
- Draw your box junction using the plot marking tool
- (If the region drawn only has 4 points then an orientation guideline is not required.)

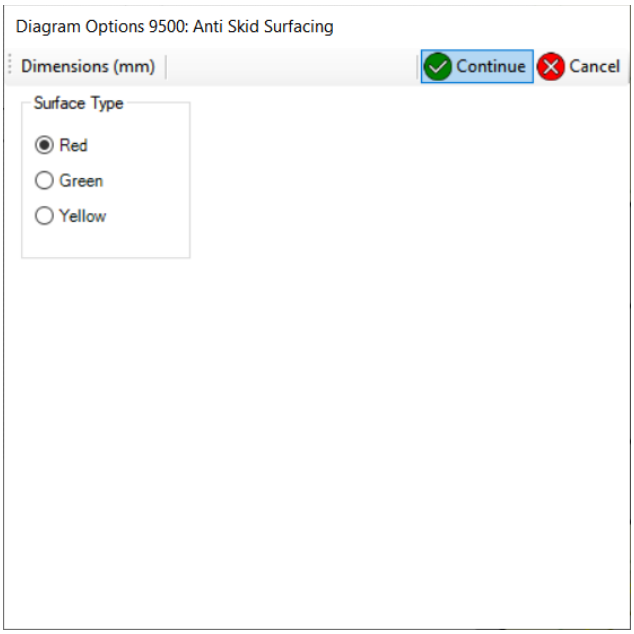


## 2.2.3 Road markings (level 2)

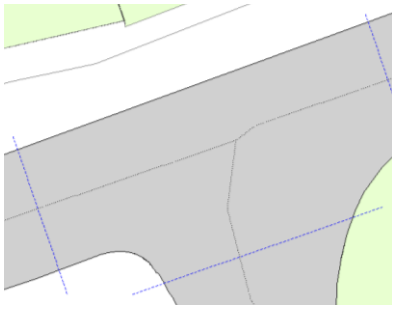
### 2.2.3.1 Anti Skid Surfacing

To generate an Anti Skid Surfacing which covers the entire junction or only part of it the steps are the same. First select the Anti Skid Surfacing marking from the marking tool bar.

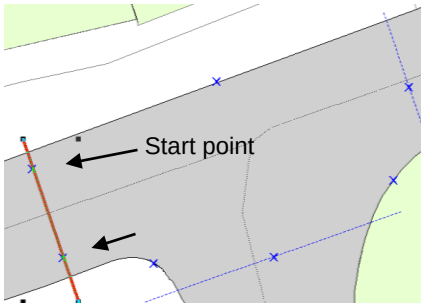



Proceed as follows:

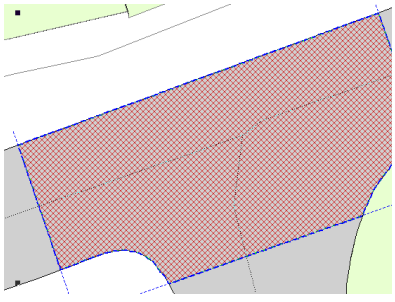
1. Use the freeform guideline tool to delimit the edge of your region.



2. Select points on all the features that bound the region, kerb lines and manually plotted guidelines using the 'plot points for route' guideline tool. The start and end points must be on the same line.




3. Click on the tool. This will create the region in which your Anti Skid Surfacing will be drawn into.

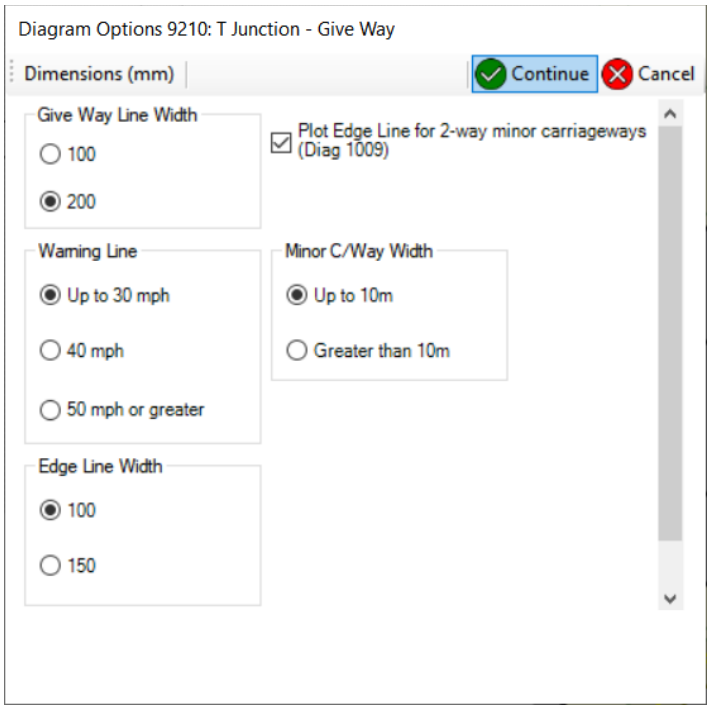


4. Plot the marking by clicking on the tool

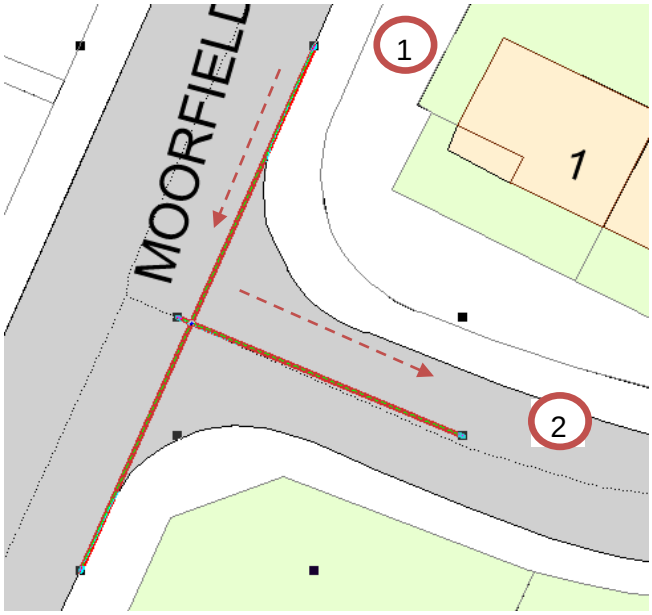
2.2.3.2 Give way junctions

This marking must be generated at a junction. Only 2 guidelines are needed to produce the give way junction marking.

Select the give way junction from the explorer.




Ensure that you select the correct details and then draw the 2 necessary guidelines.




Direction of the traffic (direction in which to draw the guidelines)

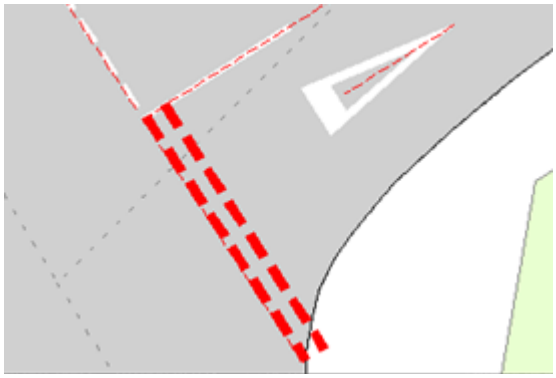
The first guideline (1) should follow the direction of the traffic and should be drawn from one side of the junction to the other. This guideline will be used to generate the twin lines for the priority and the edge line at the junction.

The second guideline (2) should also follow the direction of the traffic and should intersect the first guideline where you want the twin lines for the priority at the junction to stop and will also be used to draw the hazard line that will split the road.

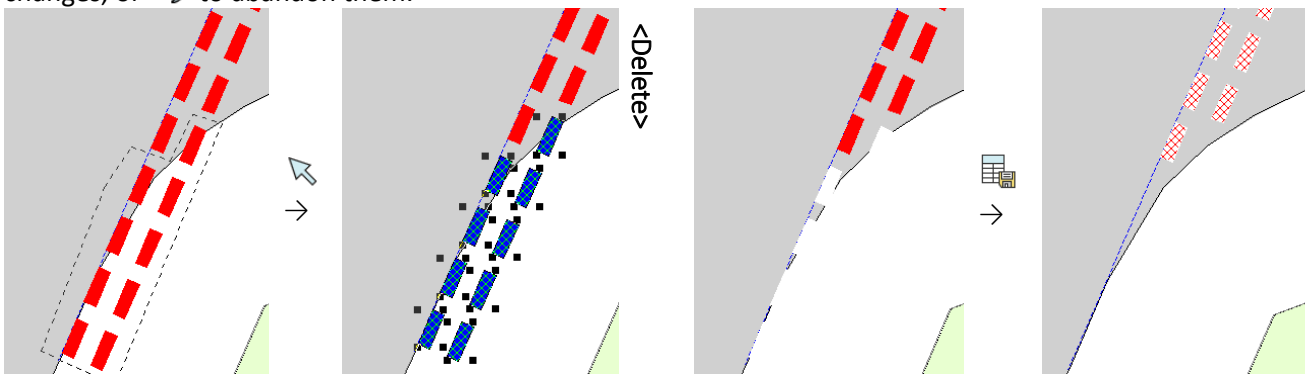
Select these two guideline and press the Plot marking button .

You might notice that some small changes are required to adjust the marking that has been plotted:

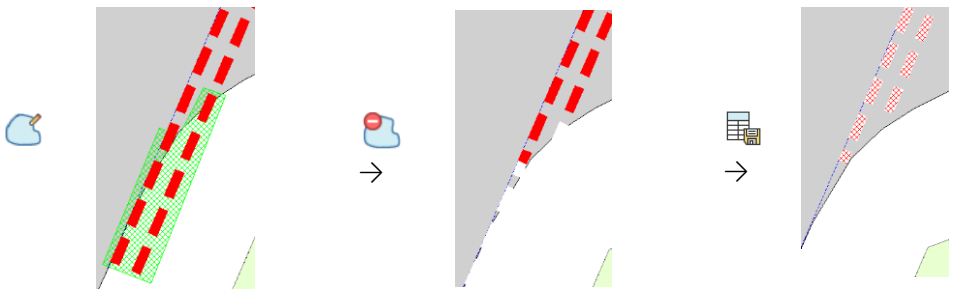
To manually edit an existing marking, select the Edit tool , and then click on the marking that you want to edit. The edit toolbar will then be displayed. An editable 'copy' of the marking will be displayed as a solid red feature.



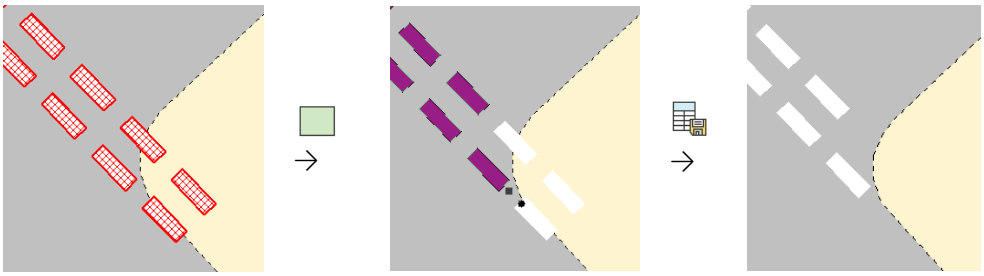
The removal of parts or an entire section can be carried out by either, selecting individual elements that make up the marking using , or for by using tool to select multiple elements. Selected items will be highlighted in blue. Click on **<Delete>** to remove the selected item/s. The original marking outline will still be visible underneath and the revised marking will still be displayed in red. Click on to save the changes, or to abandon them.




To trim to a marking, you can plot a region that is then used as a 'cookie cutter'. Click on to draw a region, then use the buttons to add or remove items from the marking as shown below.

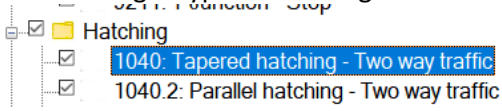


If the marking extends outside of the road region click on Trim and the portion outside will be removed as shown.



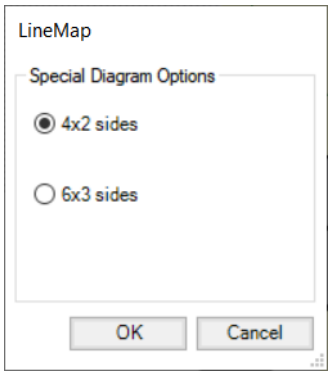
2.2.3.3 Hatching and tiger tails

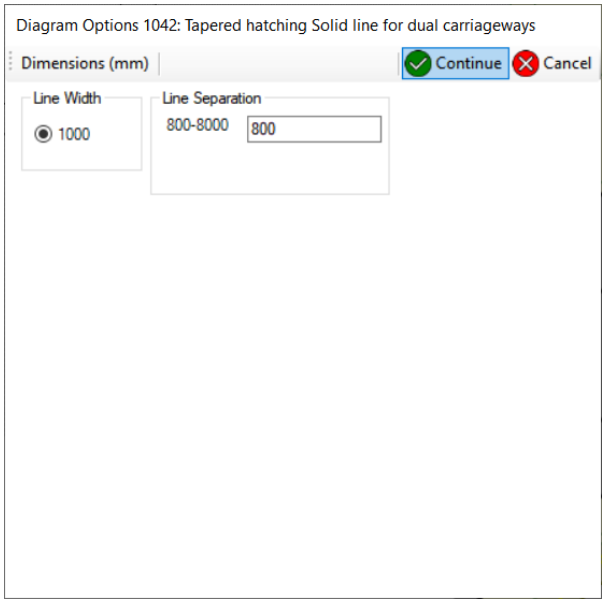
Select the right type of hatching from the Explorer.



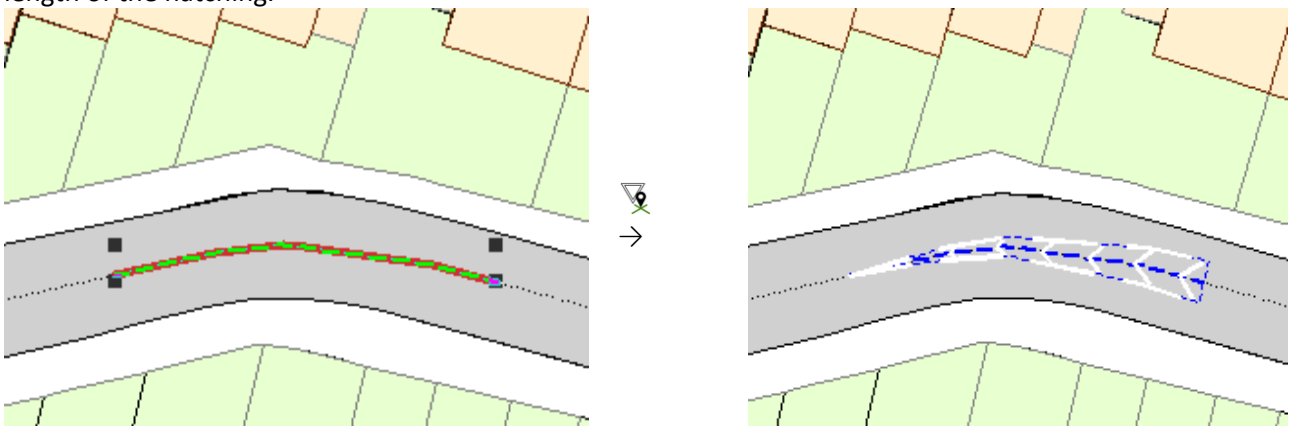

Different options will be available according to which hatching type was selected, such as line and separation widths.

Example:

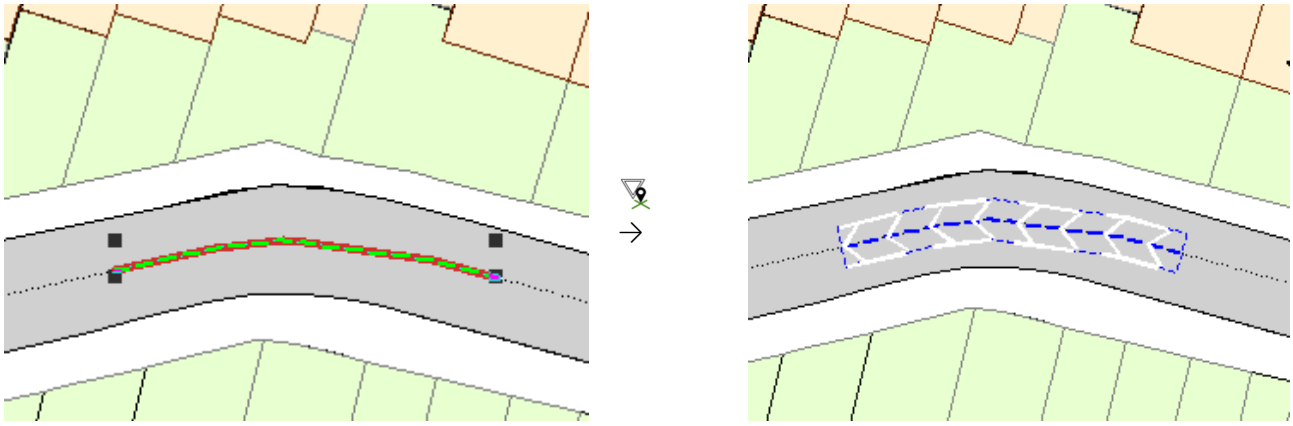


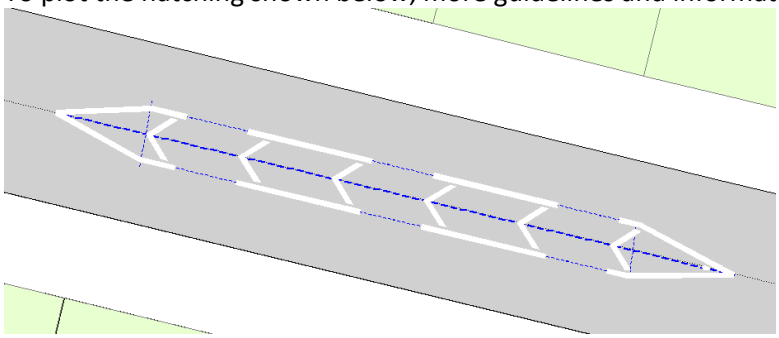

To plot a tempered or parallel hatching you only need to draw one guideline to define the direction and length of the hatching.



or

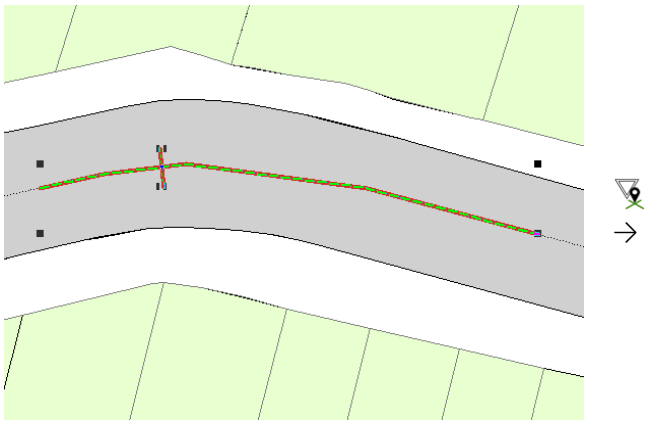


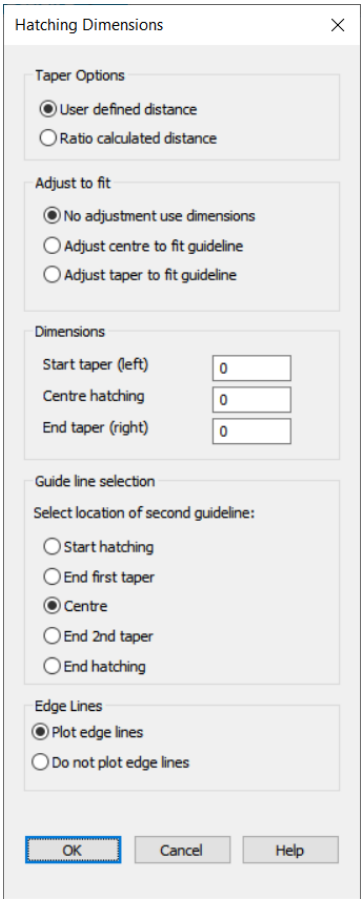
To plot the hatching shown below, more guidelines and information is required.



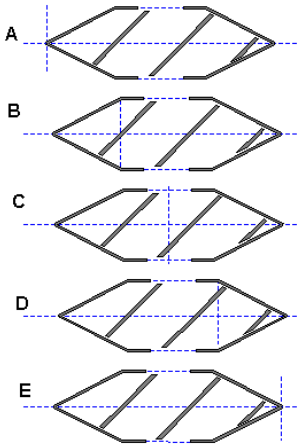
The hatching above can be plotted by choosing either tapered or parallel hatching. This will not affect the result marking. As described before, you need to draw a guideline that will define the length of the marking. After plotting the first guideline you can either:

Draw a guideline across the first one, select these 2 guidelines and click on the plot marking button . The following dialogue box will appear:

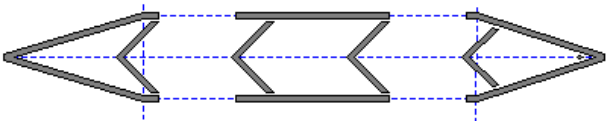




The interpretation of the dialogue is assisted with the diagrams on the right showing how the marking would look under the different options for the location of the second guideline (A-E)
If the option to 'Adjust centre to fit guideline' is chosen, the length of the central parallel section will be extended to make the marking the full length of the main guideline selected.



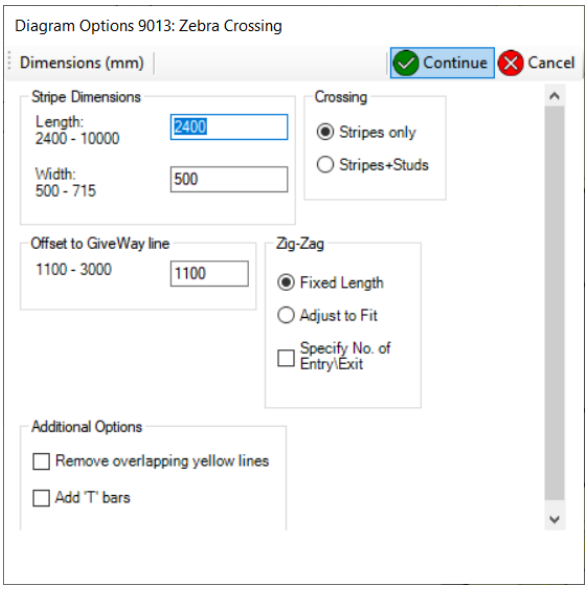

Or,
If you draw three guidelines, the system will assume that the two cross lines define the ends of the taper and that the marking extends for the full length of the longest guideline.



Experimenting with these hatching options can be the best way for you to meet specific requirements.

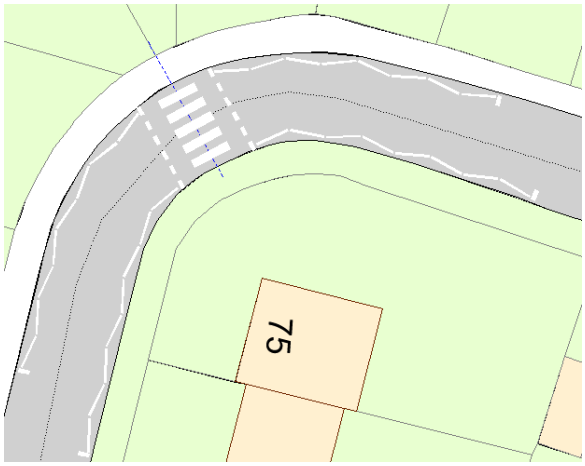
### 2.2.3.4 Zebra crossing

Select the Zebra crossing marking from the marking tool bar and ensure that you enter and select the adequate dimensions and option according to the street in which the marking is located into.



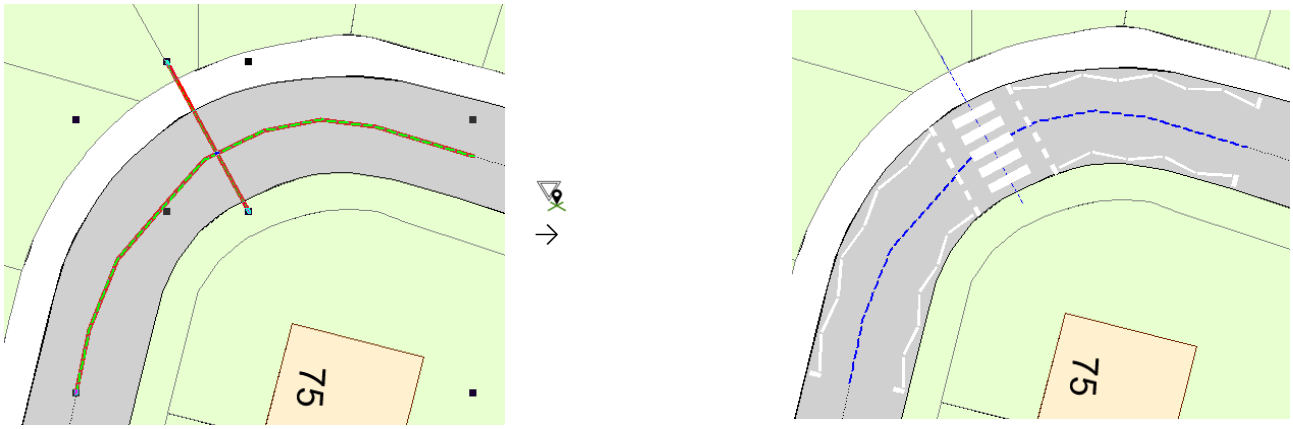

The pedestrian crossing marking can be plotted with as few as one guideline drawn across the road to define where the centre is to lie. LineMap will plot all the necessary markings.

If you plot a zebra crossing along a curve or require different approach lengths you will have to use more guidelines and options within the relevant dialog boxes, otherwise you might end up with the following:

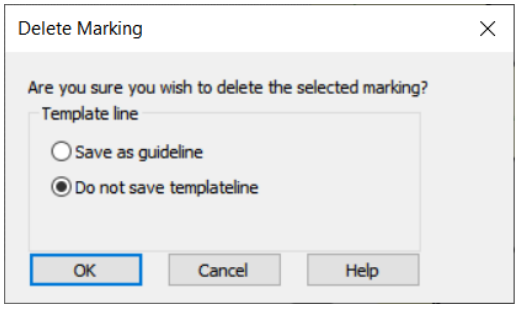



In the case of a curved road, proceed as follow:

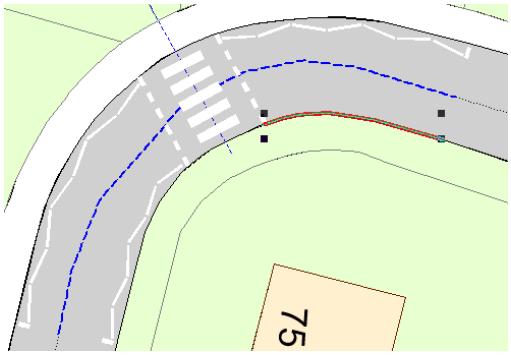
- Select the zebra crossing marking from the marking tool bar
- Ensure that the option: 'Adjust to fit' under Zigzag Markings is chosen
- Draw 2 guidelines: one to define where the crossing will be (see before) and one to define the length of the zigzag markings

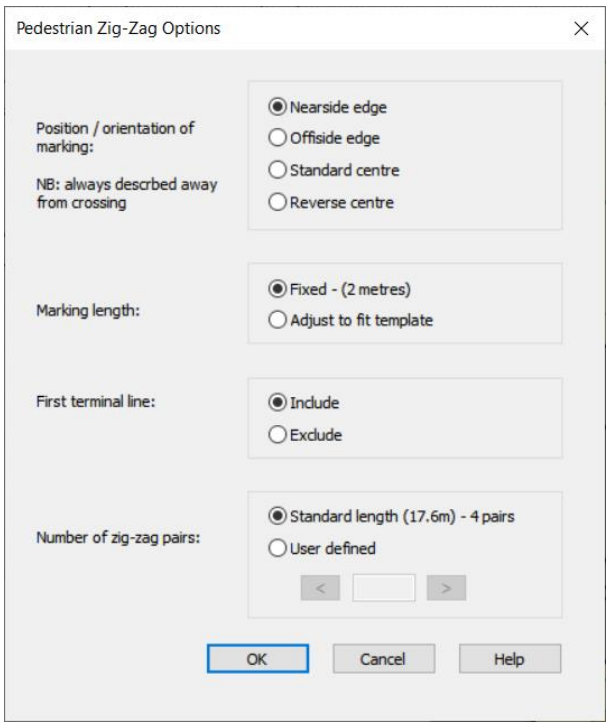



- Define the number of zigzag markings that you need on each side (3.5 in the example above)
- Delete the zigzag markings that do not have the requested amount of zigzag (zigzag on the south side of the road in the example above)
- Ensure that you select 'Save template line as guideline' while deleting the unwanted zigzag markings

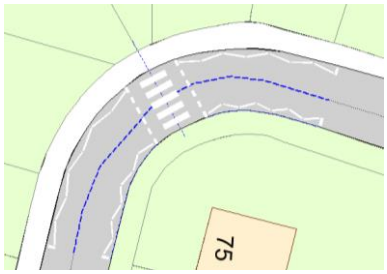



- Select the pedestrian crossing zigzag marking from the explorer
- Select the template that was previously saved as a guideline and press the plot marking button . The following dialogue box will appear:




- Selecting the right orientation is crucial at this stage. In the example above, the zigzag marking to be plotted is the offside edge marking. Ensure that 'Adjust to fit template' from the Markings length and 'Exclude' from First terminal line is selected. Then enter the number of zigzag markings wanted (3.5 in this example) and press OK
- Delete and redraw all zigzag markings according to the method described above for all zigzag markings with a different number of zigzags defined previously (3.5)
- You should obtain the same number of zigzag markings on each side of the road

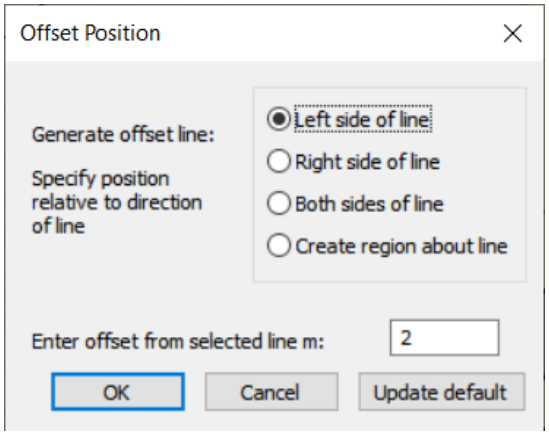


### 2.2.4 Other type of markings

#### 2.2.4.1 Bus Lane

The bus lane marking needs to be plotted from a specific offset from the kerb line. To do so you need to draw a guideline using the offset tool .

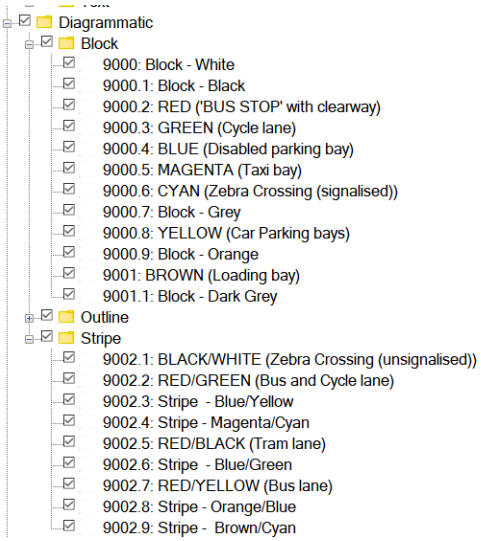
In order to offset a guideline or an existing base map feature, select the item and press the 'Offset' button.

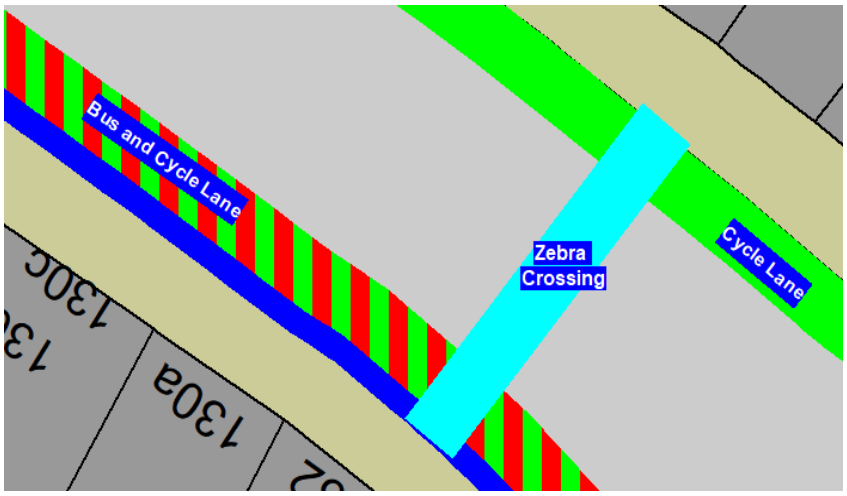



From the dialog displayed select the required offset option, (left, right or both sides) and enter the offset distance in m. Blue lines depict the offset guidelines. These lines may then be further offset should you need to change them.

#### 2.2.4.2 Diagrammatic markings

Diagrammatic markings are provided within LineMap for use in public consultations or advanced planning. Blocks of colour are drawn onto the map to indicate different types of markings without the need for plotting the detailed marking. The diagrammatic markings are therefore easier to distinguish when plotted at smaller scales.

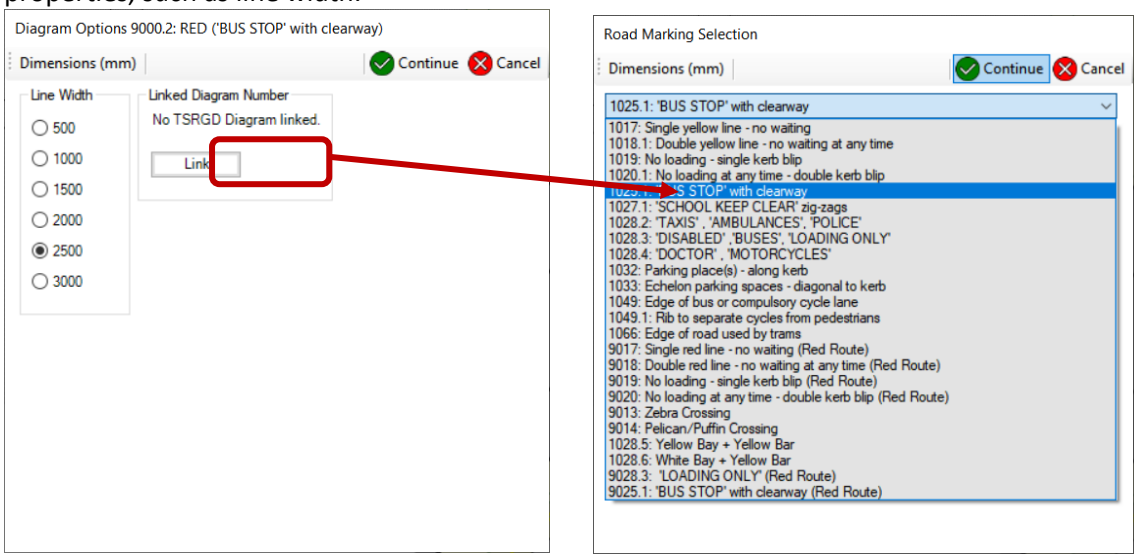


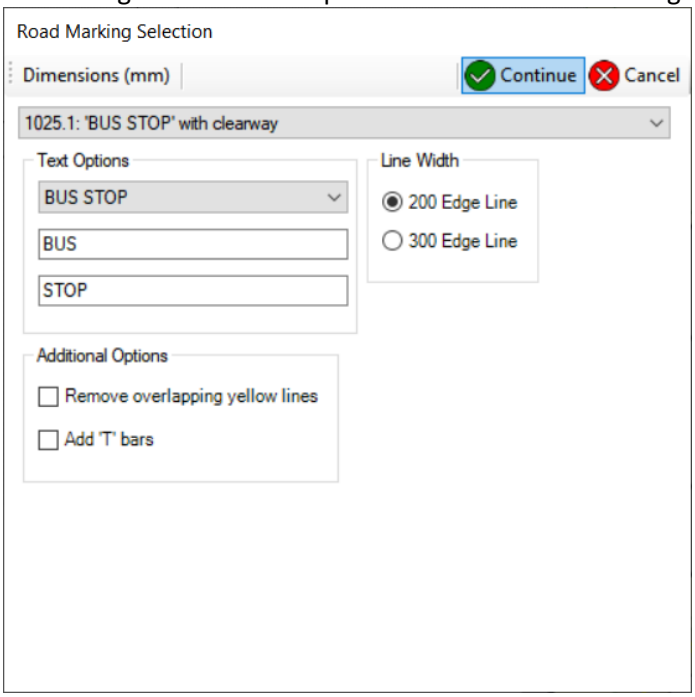

A standard set of Diagrammatic markings have been configured for the MORE project to match the Physical Street Design Toolkit acetates for stakeholder engagement. These are available as solid, outline or striped patterns as above.

It is possible to convert these diagrammatic markings into a TSRGD compliant marking without the need for re-drawing the guidelines, selecting the correct diagram number and finally re plotting the markings. In

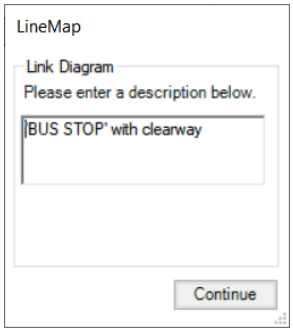
order to work the markings must be 'linked' to a TRSGD diagram number or one of the prescribed marking. To enable this feature, select the 'Diagrammatic Settings' menu option under the 'Project' menu. Chose a diagrammatic marking from the dropdown list and then click on the 'Link…' button. A list of markings is then displayed (ordered by TSRGD diagram number), select the appropriated marking and its required properties, such as line width.




You are then given the option to change the text description to be used with the diagrammatic marking.



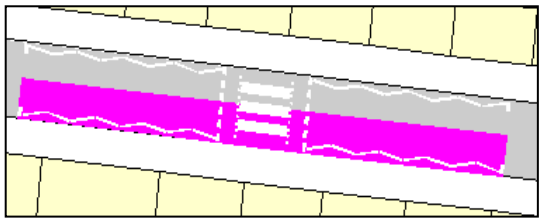

Once all diagrammatic markings are set, click on the 'Continue' button then enter or modify the description for the marking, then 'Continue' to save:



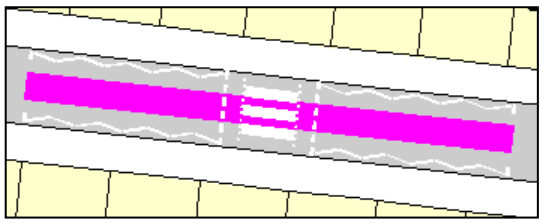

Click on the 'Unlink' button to return to the system default settings.

To convert the diagrammatic markings, select a marking or number of markings on the map, and then press the button. You will then be prompted to select the design that the prescribed markings are to be stored in.

If the marking is linked to the full zebra crossing marking (9013), then the crossing will be drawn using the full road width.

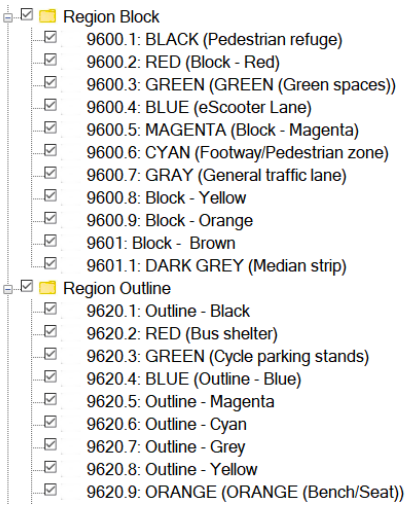


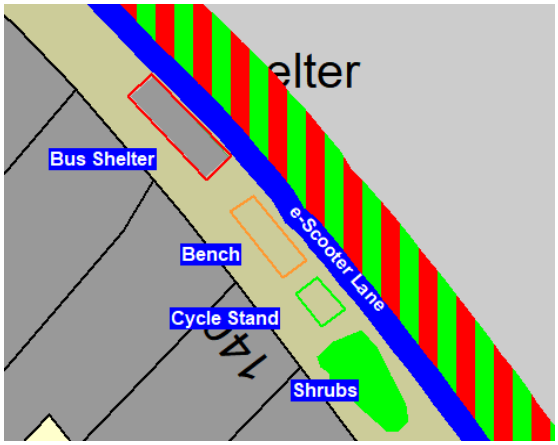
Converting a single marking will allow for all the relevant options to be available. When more than one marking is selected, the system will use default options. The 'School Keep Clear' as an example, would be positioned at the start of the diagrammatic marking and if its source diagrammatic marking was too long, it would result in a gap between the end of it and the start of any adjacent markings.



## 2.2.4.2 Free Draw Blocks

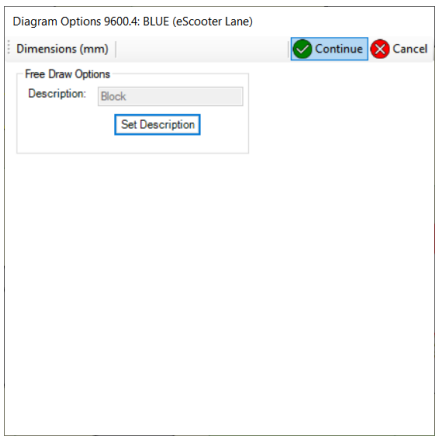
Specifically configured for the MORE project are Free Draw road use blocks. These items can be used to draw street furniture and non-marking related road space areas:



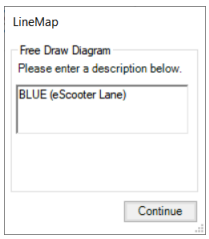




These items are available in the same patterns as diagrammatic blocks.

Click on the item in the Explorer to set or edit the description for a Free Draw block:

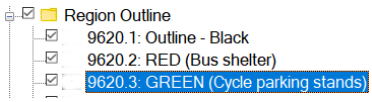



Click on 'Set Description' then enter your new description

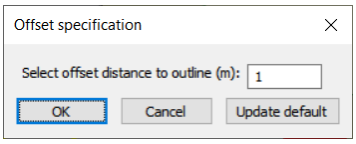



Click Continue to save

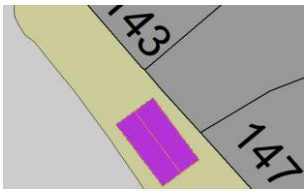
Free Draw blocks can either be drawn in manually as a polygon or constructed as a block.
To construct as a block:



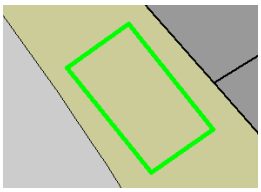

Select an item from the Free Draw group




The tool allows you to draw the centreline of the block. Double click to finish and enter the offset as above

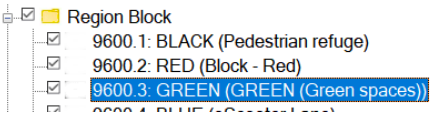



Note that the total block width in this example is 2 metres

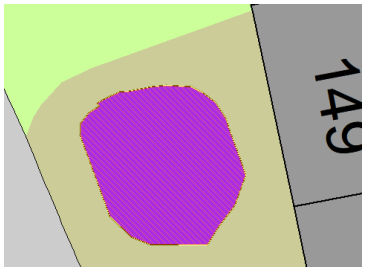


Click to plot the block, then to remove the guidelines

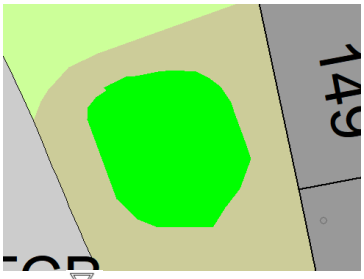
To draw manually:




Select an item from the Free Draw group




Use the tool to draw a region. Double click to close the region

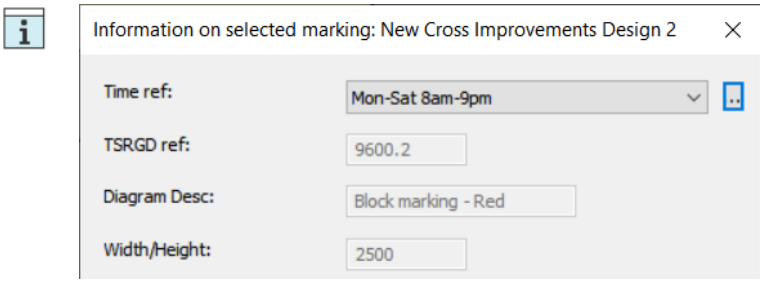



Click to plot the block, then to remove the guidelines

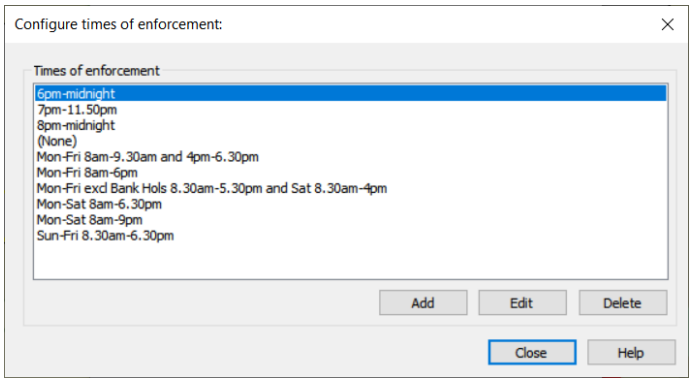
## 2.2.5 Defining a Time of Enforcement

You can define a road use block or marking to be in use for a specific time period. By default all LineMap markings are in constant use.

Draw in your marking or road use block using the methods outlined in the previous section.
Once the item has been drawn click with to access the attribute information:




Use the drop down list Time Ref to select a time of use. If you don't see the time you require, click on the … button to access a list of all times:

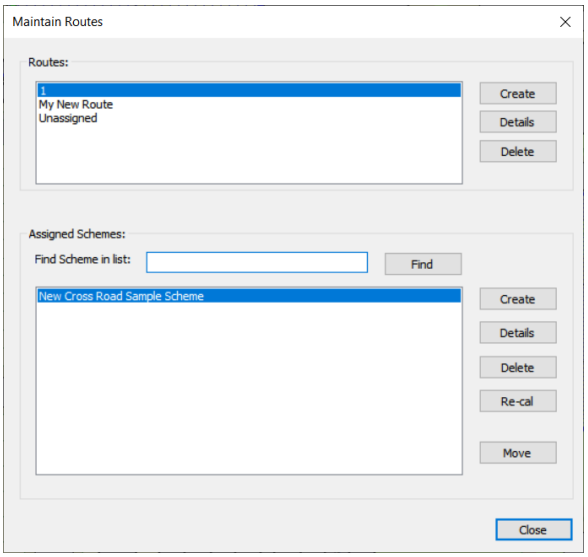



From this dialog you can add new time definitions.

### 2.2.6 Create a new route

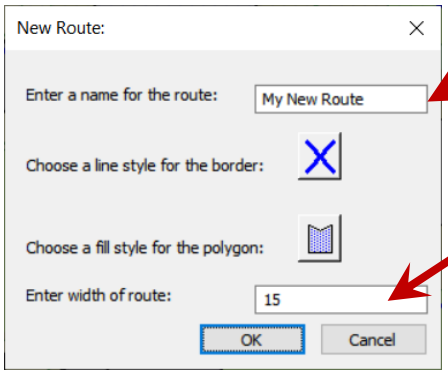
Routes were introduced for the MORE project to display schemes in the context of the feeder route.
For MORE clients the primary route has already been added by Buchanan Computing to your LineMap system. However if you want to add a new route:

**SCHEMES > Route Maintenance**




Click Create to define a new route. You will be prompted to draw the centreline of the route on the map display. Note you can also create a scheme on this dialogue and associate it with a particular route.

Trace the route you want to define and double click to finish:




Enter a route description in the first field.

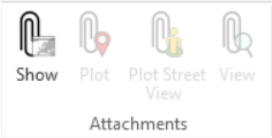
Enter a route width. By default this should be 10 metres.

Click OK and the Route will be displayed on the map, buffered to the specified width

### 2.2.7 Attachments

You can add external attachments to a scheme, such as a hyperlink or document at a specific location. You can use this facility to link external sources to your scheme such as images, hyperlinks or videos.

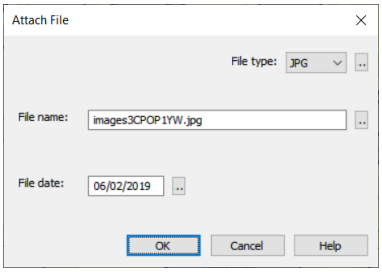
**HOME > Attachments**



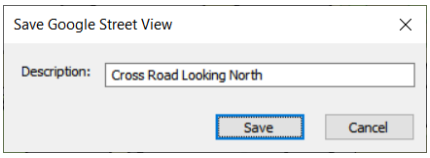

To display or hide the attachments layer toggle the Show button

Click on the map to plot an attachment point then browse to the photo or document using the … button.

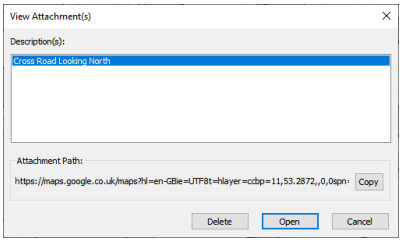
Use the file type drop down list to choose the document type then click OK



Plot a Google Streetview point by drawing a line in the direction of view. Click and hold the left mouse button, drag to the viewing angle required then release the mouse button then enter a description of the view and click Save



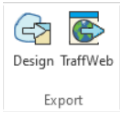
Click on a photo point to view attribute information



# CHAPTER 3: EXPORTING DATA

### 3.1.1 Overview

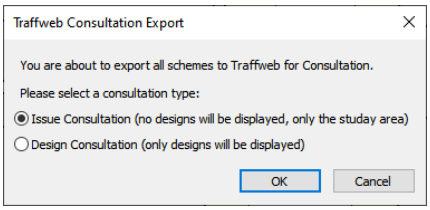
This section covers links to other software for the MORE project:




- Traffweb Publishing
- VISSIM Export

### 3.1.2 Traffweb Publishing

You can publish data to Traffweb either for Issue Consultation or Design Consultation. For either routine, ensure you are in edit mode then choose ADMIN > Traffweb Export:

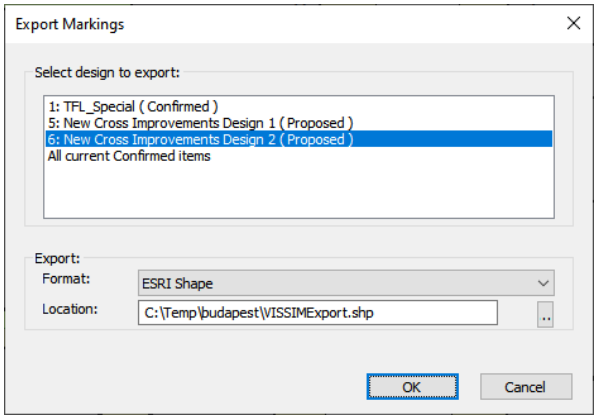



Simply choose the type of consultation you want to carry out and click OK to proceed with the export. During the export routine data will be streamlined and zipped into compressed files, then transferred to the Traffweb server. Publishing of data will take place overnight.

### 3.1.3 VISSIM Export

To export data to VISSIM, simply choose ADMIN > Design Export:

Select a scheme from the first list then choose the ESRI Shape format:




Click OK to export to the specified location.

# CONCLUSION

## Overview

On completion of this course you should now be able to use and navigate around the system with ease and be able to carry out the following tasks:

- Adding/maintaining road markings
- Information retrieval
- Creating Schemes, Designs and Routes
- Map output/production
- Publish to Traffweb
- Export to VISSIM

## Useful Contacts: Buchanan Computing

### Support

If you have any problems, issues or queries with regards to using the system please feel free to contact our support helpdesk:

- Tel – 020 8846 3220
- Email – support@BuchananComputing.co.uk

### Help

You can access online help from within LineMap from the Backstage **LineMap** tab

### Further Training

If you would like to enquire about additional training courses, please feel free to contact our training team:

- Tel – 020 8846 3220
- Email – training@BuchananComputing.co.uk