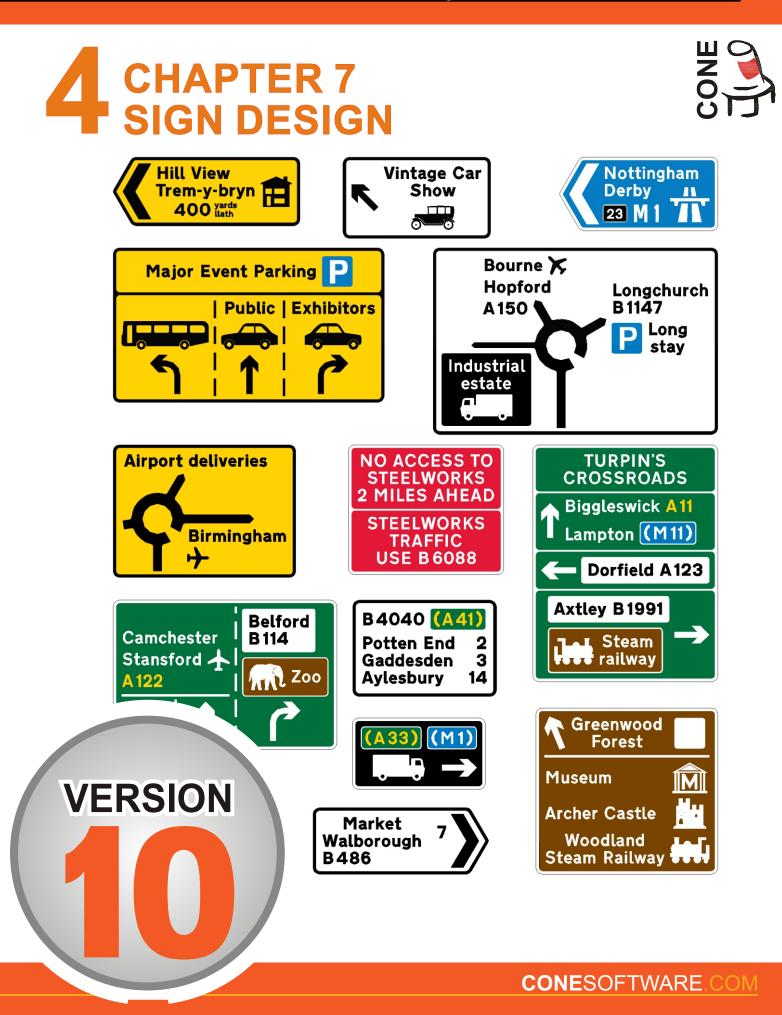
# CONE10UK

Temporary Traffic Management AT YOUR FINGERTIPS

Software for the Creation of Temporary Road Traffic Control Diagrams & Route Diversion Schemes



# Chapter 7 Sign Design for CONE 10 (UK Version)

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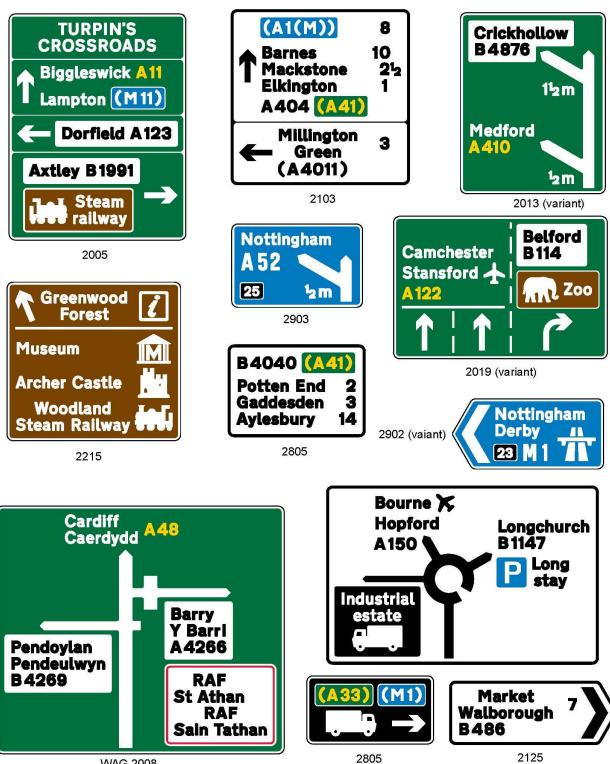
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Typical range of signs for temporary and event signs – Transport Heavy – (Black text on yellow or white backgrounds) and Transport Medium (White text on red or blue backgrounds)



```
7003.1
```

Typical range of signs for permanent direction signs– Transport Heavy – (Black text on light backgrounds) and Transport Medium (White text on dark backgrounds)



WAG 2008

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#### Introduction

For the first time "True" sign design utilising Transport Fonts is now available as part of CONE (v10) with some limitations (see below) which will be addressed in future versions.

The following sign types can be created in CONE 10:

Temporary signs for road works, route diversions etc. (see limitations) Event Management Signs (with additional user defined symbols) Permanent Directional Informatory Signs:

> Stack Type Advance Directions Signs Map Type Advance Direction Signs Dedicated Lane Advance Direction Signs Flag Type Direction Signs Route Confirmation Signs Motorway Signing

**Current Limitations** - As of version 10.2 (Aug 2013), These limitations will be addressed in the order shown below, please refer to our website <u>www.conesoftware.com/uk</u> for the latest information and status

- 1. Quick Sign Wizards for Temporary and Event signs
- Some Signs for Road works types (see TSRGD 2002 Schedule 12 Part 3 and Chapter 7: Section 13 pages 116 onwards)
- 3. Priority Left Turn Roundabouts
- 4. Grade Separated Roundabouts
- 5. Mini Roundabouts
- 6. Signs that include other signs (except 7001, 572, 636, 642, 645, 670 and 670 which are included)
- 7. Signs on stack type signs (see Chapter 7: pages 37 40)
- 8. Signs on map type signs (see Chapter 7: pages 60 70)

Cone Sign Design utilises the rules as documented in Chapter 7 of the Traffic Signs Manual – The Design of Traffic Signs 2003 and TSGRD2002

Traffic signs are created in CONE by firstly **placing and arranging** Text Legends, Symbols & Arrows, Route Arms, Roundabouts, Route Patches and Panels as required and then **finalising** the sign which adds the background plate in the appropriate colour and style along with other finishing options.

Cone Sign Design includes tools to help set the appropriate horizontal and vertical spacing and alignments, but **DOES NO**T check that they are correctly spaced or aligned at Sign Finalisation time.

It is entirely possible for you to move objects out of alignment (see example below), so we recommend that whilst using Cone Sign Design you refer to Chapter 7 of the Traffic Signs Manual – The Design of Traffic Signs 2003 and the working drawings which can be found at:

http://www.gov.uk/working-drawings-for-traffic-signs



CORRECT



**INCORRECT** 

Access to the Cone Sign Design Tools is via the main Cone10UK pull down menu or the Cone Sign Design toolbar

CONE10_UK_Sign_Design_T 📧						
Α	P	ŀ	֩	÷		2

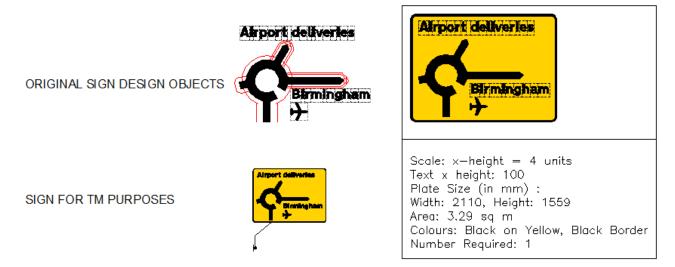
Co	ne10UK		
1	Cone Preferences		or on on   🌒 📦   🎛 🔅
	Sign Search/Browse/Insert	0	� ⊷   X X ↓   🏼
	Sign Arrays	-	💭 🛛 🖾 🕅 🖉 🦉 🎢 📴
	Sign & Leader Tools	F	
9	Symbols		
	Schematic Diagrams		
	Miscellaneous Tools & Libraries		
	Mapping Utilities		
	Roadway Tools		
	Road Markings Tools		
	Chapter 7 Sign Design	Α	Text Legends
	Curve Tools		Patches & Panels Route Arms
J	Devices Along a Curve	₽  ũ	Roundabouts
	Sign Schedule	+	Arrows & Symbols
	Help and Information		Alignments & Frames Layer Toggles
	Modify Text or Data On Signs		External Links
_		2	Finalise Sign

The sign design tool creates two types of sign: (You can create either or both as required)

One for manufacturing purposes and another for subsequent insertion into a TM plan

The sign for manufacturing purposes is created in the same drawing as the various objects that make up the finished sign; the sign for subsequent insertion into a TM plan is saved as a separate file on your hard drive and can be inserted into a TM plan using the CONE **Sign/Browse/Insert** tool

Signs for TM purposes have frames and text tiles stripped out and are created at a size that is proportional to other TM signs in the CONE signs library.



SIGN FOR MANUFACTURING PURPOSES

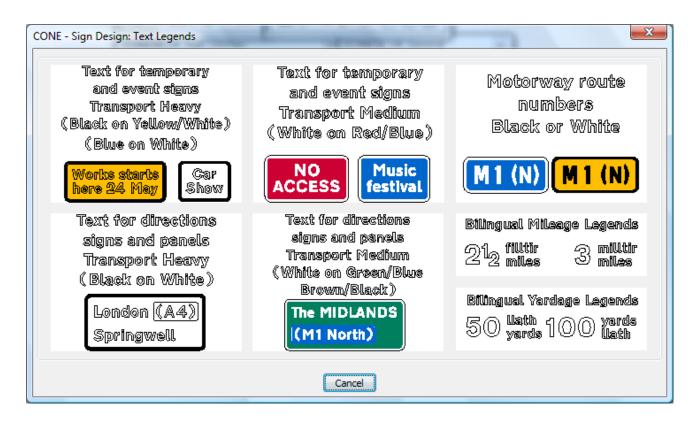
#### Text Legends

Operation: *CONE10UK pull down menu Chapter 7 Sign Design -> Text Legends* 

		ы.		
	Chapter 7 Sign Design 🔹 🕨	7	ł	Text Legends
	Curve Tools	Ę	2	Patches & Panels
		ſ	1	Route Arms
1	Devices Along a Curve	12	16.	
~	Devices Along a Curve	Ť	9	Roundabouts
Ħ	Sign Schedule		6	Arrows & Symbols
	<u> </u>			Alignments & Frames
	Liste and Information A			-
	Help and Information			Layer Toggles
		1-	_	, ,,
	Modify Text or Data On Signs		R)	Finalise Sign
_			_	

Or select the A icon from the Cone Sign Design Toolbar





There are seven types of text legends

- 1. Text for temporary and event signs Transport Heavy (Black text on yellow or white backgrounds)
- 2. Text for temporary and event signs Transport Medium (White text on red or blue backgrounds)
- 3. Motorway route numbers Transport Heavy or Medium (Black on yellow backgrounds or white on blue)
- 4. Text for permanent direction signs Transport Heavy (Black text on white backgrounds)
- 5. Text for permanent direction signs Transport Medium (White text on dark backgrounds)
- 6. Bilingual Mileage Legends
- 7. Bilingual Yardage Legends

Note: The Transport Heavy and Transport Medium types are interchangeable; you may use either to create the appropriate text for use on the appropriate background; however each tool has a different application as described in the following paragraphs.

The alphanumeric text characters used on traffic signs are based on the special transport alphabet font set (See Traffic Signs Manual: Chapter 7: Page 8 -9 and 147-148)

There are two font sets

Transport Heavy (Black characters on white or yellow backgrounds) Transport Medium (White characters on green, red, blue, brown or black backgrounds)

In additions there are two special font sets for motorways signs

Motorway White (White characters on a blue background) Motorway Black (Black characters on a yellow background)

It is important to note that these fonts are NOT standard systems fonts, you cannot use them in normal text editing (as you would for Arial or Verdana etc.)

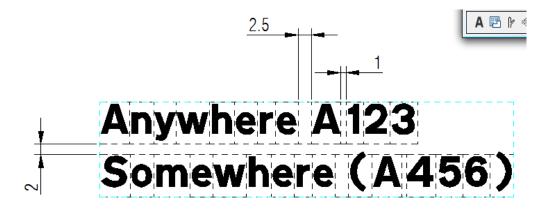
Cone Sign Design provides text legend entry tools for each of the above fonts; each individual character is contained within an 8 stroke width high tile block, the tool strings together the individual character blocks to make up text legend blocks

The horizontal character or word spacing and the vertical line/block spacing are governed by the rules as defined in Chapter 7 except for signs with their own special design rules.

These special signs are described in the form of working drawings which can be found at

https://www.gov.uk/working-drawings-for-traffic-signs

Examples of horizontal character/word and vertical line spacing



Text Legends for Temporary Road Works and Event Signs

Some examples of the types of signs created with this text legend entry dialog are on page 2

These types of temporary signs have in some cases slightly different vertical line spacing rules to permanent type signs, they do not normally contain route patches or distances and the text is generally centre justified

Both tools (Transport Heavy or Medium) for text legends for temporary road works and event signs are similar in operation; select the tool that is appropriate to the intended background colour of the finished sign

Transport Heavy (Black characters on white or yellow backgrounds)





Transport Medium (White characters red or blue)



Text for temporary



Picking either of the icons will load the appropriate text entry dialog which is explained in detail in the following pages:

#### Text Entry Dialog (text for temporary signs)

Horizontal Spacing (stroke width	s)	Legend Preview (Aprox)				
<ul> <li>Auto Kerning</li> <li>Auto Kerning is ON</li> <li>Use the spacebar ONLY to enter horizontal spaces</li> </ul>	0,5 sw < 1,0 sw   1,5 sw >	M[4](E) _Junction 15 to Night closure Sat 11 & Sun 1:	o 16_ es			
egend Text 1 4 (E) unction 15 to 16	VSpace 1 2	Alignment	Scale 100 ▼ 100 ▼ 100 ▼	Sample Legends Fractions and Accents Welsh Accents		
Vight closures     1       Sat 11 & Sun 12 May     0       0     0       0     0       0     0			$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	# \$ 1. Click a character above 2. Position the cursor in the appropriate text edit box & paste (Ctrl V) or right click		
Clear All Text Entries		Legend Insert Point		Bottom Left 🔹		

**Horizontal Spacing (stroke widths):** If the Auto Kerning checkbox is enabled the legend tool auto inserts the correct horizontal character and word spacing. If left un-checked then spaces need to be manually input as follows:

0.5 sw use the < key 1.0 sw use the | key 1.5 sw use the > key 2.5 sw use the spacebar Note: See Traffic Signs Manual Chapter 7 pages 10 and 11 for horizontal spacing rules

Text entry: Up to 8 lines of text may be entered (no spell checking is provided)

**Alignment:** The line alignment: Left, Centre or Right justified, (normally centre for temporary signs)

However some Welsh/English signs have left justified text see working drawings at:

http://www.traffic-wales.com/traffic\_signs.aspx

Scale: The line scale as a percentage of the x-height (normally 100%)



VSpace	Vspace: (Vertical Line Spacing): The vertical spacing betw	een each pair of lines.
0	If the vertical spacing is 0 (zero) then each line of text	
0	will be butted together vertically with no gap.	Legeno
0		Legeno

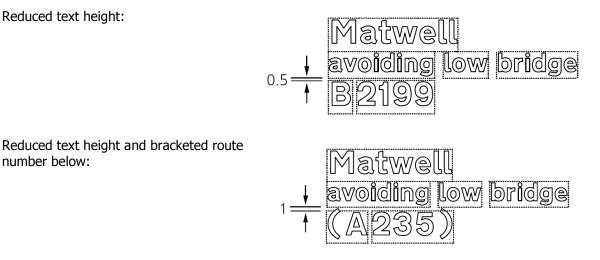
There is however three circumstances where the legend tool will automatically insert a 0.5 or a 1.0sw vertical space.

Bracketed route number below:

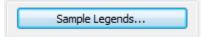
Reduced text height:



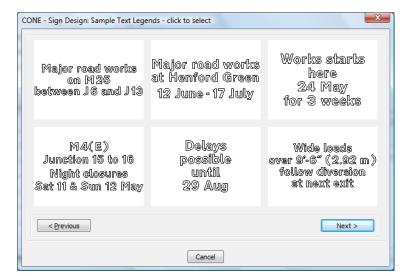
0.5 sw (bracketed route no.)

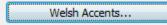


number below:



Sample Legends: Select this button to open a sub-dialog window and choose from a range of pre-defined text legends (Pick the desired icon to select) which will be inserted into the main dialog text entry boxes, any current text entries, vertical spacing and scale settings will be reset to suit the sample legend selected.





**Welsh Accents:** Pick this button to open a sub-dialog window and choose from a range of special welsh language accent characters.

Pick the desired character icon as required. This action will copy the character to the clipboard ready for pasting.

Select the **OK** button to return to the main dialog window.

Instructions 1. Click the desired character, it will be copied to the dipboard. 2. Pick the OK button to return to the main dialog. 3. In the main dialog, position the cursor in the appropriate text edit box & paste (Ctrl V) or right click & paste.								ma and a s The	ne of the tching SY d for dialo ubstitute e actual d	STEM fon g display character rawing wi	rs below h t, in these purposes will be us Il not be a ter will be	e cases only sed. affected	
Circumfle	x												
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Umlaut													
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Position the cursor in the desired position in the text entry box and either press (Ctrl + V) or right click and select paste from the menu that appears.

Note: Some of the Welsh accent characters have no matching operating system font, in these cases a substitute character will be shown in the text entry dialog; the actual legend when positioned on the drawing will show the real character.

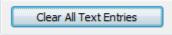
#### Fractions:

Pick the desired fraction icon as required. This action will copy the character to the clipboard ready for pasting.



Position the cursor in the desired position in the text entry box and either press (Ctrl + V) or right click and select paste from the menu that appears.

Note: The  $1/3^{rd}$  and 2/3rds characters have no matching operating system font, in these cases a substitute character will be shown in the text entry dialog, the actual legend when positioned on the drawing will show the real character.



**Clear All Text Entries:** Pick this button to clear all current text entries and reset the Vertical Space, Scale and Alignment values to their default values.

#### **Legend Insert Point:**

Choose the block reference point when positioning the text legend on the drawing from this pop-up list.

Legend Insert Point	Bottom Left 🚽
	Bottom Left
	Bottom Middle
OK Cancel	Bottom Right
	Top Left
	Top Middle
	Top Right
	Middle Left
	Middle Right



Insert the text legend: Pick the **OK** button to create the text legend block and place on your drawing, or pick **Cancel** to discard.

The **OK** button saves the current legend entry settings and these will become the default setting the next time you use the tool in the current drawing session.

Text Legends for Permanent Direction Signs & Panels

Some examples of the types of signs created with this text legend entry dialog are on page 3

These types of signs have in some cases slightly different vertical line spacing rules to temporary type signs; they may also contain route patches and distances

Both tools for text legends for permanent signs are similar in operation; select the tool that is appropriate to the intended background colour of the finished sign

Transport Heavy (Black characters on white backgrounds)



Transport Medium (White characters green, red, brown, blue or black)

Text for directions signs and panels Transport Medium (White on Green/Blue Brown/Black) The MIDLANDS (M1 North)

Picking either of the icons will load the appropriate text entry dialog which is explained in detail in the following pages:

Vertical Spacing (stroke widths)		Horizontal Spaci	ng (stroke widtl	ns)	Legend Preview (Apr	-		
If VSpace is set to 0.0 the vertical line spacing will be auto calculated		Auto Kerning		0.5 sw <	Barnes Mackstone	8 _10 2 <sup>3</sup> 2		
to a group	iping 2 or more lines , toggle the G between each	roup	Use the space	bar ONLY to	1.0 sw   1.5 sw >	Elkington A 404	1	
Group	VSpace	Legend Text		Route Pate	h Dist	Alignment	Scale	
	4.0			(A 1 (M))	8	● L ○ C ○ R	100 🔻	Sample Legends
	0.0	Barnes			10	● L ○ C ○ R	100 🔻	Fractions and Accents
<b>√</b> »»		Mackstone			21/2	● L ○ C ○ R	100 🔻	Welsh Accents
<b>√</b> »»	0.0	Elkington			1	●L ○C ○R	100 -	
<b>√</b> »»	0.0	A 404		(A 41)		●L ○C ○R	100 -	13 14 12 23 34
<b>&gt;&gt;</b>	0.0					© L ◯ C ◯ R	100 -	, #\$
>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>	0.0						100 -	<ol> <li>Click a character above</li> <li>Position the cursor in the</li> </ol>
<b>&gt;&gt;&gt;</b>	0.0					●L ○C ○R	100 •	appropriate text edit box & paste (Ctrl V) or right click
						Insert Point	:	
Clear	All Text Entri	es						Bottom Left 🔹
				_	ок Са	ancel		

#### **Text Entry Dialog for Permanent Direction Signs & Panels**

#### **Grouping and Vertical Line Spacing**

The **Group** checkbox assigns two or more lines to a group (usually a single destination spread over two or more lines)

**Vspace:** (Vertical Line Spacing): The vertical spacing between each pair of lines.

If the vertical spacing is 0 (zero) then the vertical line spacing is auto calculated for vertical block spacing.

If the vertical spacing is greater than zero the space you enter is created between each line

#### Example 1:

**Aylesbury** and **A|41** are entered in the legend text boxes. Vspace is set to zero (auto calculate vertical block spacing mode) & the two lines are not grouped.

This results in a vertical space of 2sw between the lines which is correct for vertical block spacing but not what is required

Here the only difference is that the grouping checkbox for the two lines is set to ON The tool now treats the two lines as a single destination, this results in a zero vertical space between the lines which is correct



Group	VSpace	Legend Text	Aylesbury
<b>*</b>	0.0	Aylesbury	
	0.0	A 41	A41

Group	VSpace	Legend Text	Aylesbury
<b>V</b> >>>	0.0	Aylesbury	┝ᡓ᠊┽╤┶╈┽╺┶╶┶╴┷╴┷╴┷
	0.0	A 41	A41

#### Example 2:

**Lutterworth, Market, Harborough** and **A427** are entered in the legend text, **Market Harborough** is a single destination and as such those two lines of text should be centre justified to each other

Group	VSpace	Legend Text	Route Patch	Dist	Alignment
<b>**</b>	0.0	Lutterworth			● L ○ C ○ R
	0.0	Market			© L
<b>V</b> »»		Harborough			● I ○ C ○ R
<b>&gt;&gt;</b>	0.0	A 427			⊚ L ⊚ C ⊚ R
<b>**</b>	0.0				⊚L ⊜C ⊜R

By grouping the lines **Market** and **Harborough** and setting the justification of **Market** to centre tells the legend tool that **Market** and **Harborough** are a single destination and that **Market** is centre justified with respect to **Harborough** (because Harborough is the longest text in the group) **Harborough** itself is left justified, vertical spacing is set to zero (auto calculate vertical block spacing mode)



**Horizontal Spacing (stroke widths):** If the Auto Kerning checkbox is enabled the legend tool auto inserts the correct horizontal character and word spacing. If left un-checked then spaces need to be manually input as follows:

0.5 sw use the < key 1.0 sw use the | key 1.5 sw use the > key 2.5 sw use the spacebar Note: See Traffic Signs Manual Chapter 7 pages 10 and 11 for horizontal spacing rules

Legend Text: Up to 8 lines of text may be entered (no spell checking is provided)

**Route Patch:** Adds a route patch at the end of a text entry line. To create a route patch on a line by itself leave the associated text entry box blank.

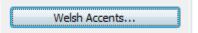
Route patches that include a capital M are assumed to be motorway route numbers (white on blue)

Route Patch
(A 1 (M))
(A 41)

Distance: Adds a distance at the end of text entry line Dist 8 10 Alignment Alignment: The line alignment: Left, Centre or Right justified, 🔍 L 🔘 C 🔘 R OL ○C ○R Scale **Scale:** The line scale as a percentage of the x-height (normally 100%) 100 100 • Sample Legends... Sample Legends: Select this button to

open a sub-dialog window and choose from a range of pre-defined text legends (Pick the desired icon to select) which will be inserted into the main dialog text entry boxes. All current text entries, vertical spacing, grouping, distance and scale settings will be reset to suit the sample legend selected.

Wilson Green Beckwood A 321	(A1(M)) 8 Barnes 10 Mackstone 2½ Elkington 1 A404 (A41)	Barnes 3 avoiding low bridge Millington Green 12						
London ((A4)) Springwell Foxley B470	Stocksford Business Park	Mon - Fri Midnight - 7 am 8 pm - Midnight Sat & Sun At any time						
	Cancel							



Welsh Accents: Pick this button to open a sub-dialog window and choose from a range of special welsh language accent characters.

Pick the desired character icon as required. This action will copy the character to the clipboard ready for pasting.

Select the **OK** button to return to the main dialog window.

2. Pick t 3. In the text e	the desire he OK bu e main dia edit box 8	tton to re log, posi	eturn to t	ne main d ursor in th	he approp			ma and a s The	ne of the tching SY d for dialo ubstitute e actual d	STEM fon g display character rawing wi	rs below h t, in these purposes r will be us ill not be a ter will be	cases only sed. iffected	
Circumfle		<u>^</u>	~	~	~	~							
Â	Ê	Î	Ö	Û	Ŵ	Ŷ	3	ê	Î	6	Û	ŵ	Ŷ
Grave													
à	È	Ì	ð	Ù	Ŵ	Ý	1	0	Ì	ð	ù	Ŵ	ý
Acute													
á	É	í	Ő	Ũ	Ŵ	Ý	á	é	ſ	6	ជ	ŵ	ý
Umlaut		U	0	0		u	-	U			u		5
	Ë	Ĩ	Ö	Ü	າດັກ	Ÿ	ä	ë	ĩ	ö	ů	Ŵ	ÿ
A	E	U	$\odot$	U	W	Ϋ́	e.	6	U	0	U	66	y

Position the cursor in the desired position in the text entry box and either press (Ctrl + V) or right click and select **paste** from the menu that appears.

Note: Some of the Welsh accent characters have no matching operating system font, in these cases a substitute character will be shown in the text entry dialog; the actual legend when positioned on the drawing will show the real character.

Fractions:

13	1 <sub>4</sub>	12	23	34
#			\$	

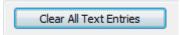


Click the desired fraction icon as required.

This action will copy the character to the clipboard ready for pasting.

Position the cursor in the desired position in the text entry box and either press (Ctrl + V) or right click and select paste from the menu that appears.

Note: The 1/3<sup>rd</sup> and 2/3rds characters have no matching operating system font, in these cases a substitute character will be shown in the text entry dialog, the actual legend when positioned on the drawing will show the real character.



**Clear All Text Entries:** Select this button to clear all current text entries and reset the Vertical Space, Scale and Alignment values to their default values.

Legend Insert Point

#### Legend Insert Point:

Choose the block reference point when positioning the text legend on the drawing from this pop-up list.

	Bottom Left		
	Bottom Left		
	Bottom Middle		
OK Cancel	Bottom Right		
	Top Left		
	Top Middle		
	Top Right		
	Middle Left		
	Middle Right		

-----



Insert the text legend: Pick the **OK** button to create the text legend block and place on your drawing, or pick **Cancel** to discard.

The **OK** button saves the current legend entry settings and these will become the default setting the next time you use the tool in the current drawing session.

#### Other Text Legends

Motorway Route Numbers

**Bilingual Mileage Legends** 

**Bilingual Yardage Legends** 

Operation: *CONE10UK pull down menu Chapter 7 Sign Design -> Text Legends* 

Or select the **A** icon from the Cone Sign Design Toolbar

CONE10_UK_Sign_Design_T 📧						
A 🖻 🕨 🗇 🕂 🗖 🐼						

Motorwa	-
numl	
Black or	r wundte
M1 (N)	<mark>M 1 (N)</mark>
Bilingual Miles	nge Legends
21 <sub>2</sub> filltir miles	3 milltir 3 miles

Bilingual Vardage Legends

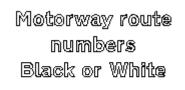
yards Uath

50 listh 100



To add a motorway route number pick the **Motorway route numbers** icon

The dialog shown below will be displayed





Cone Legend Text: Mot	torway - White o	r Black			×
White for blue backgro Black for yellow backgro Enter the following cha A B E M 0 1 2 3 4 5 6 7 Compass Points Chara (N) = n (S) = s (E) = e (W) = w	rounds aracters only 7 8 9 & ( ) / ,		Horizontal Spacing ( Auto Kerning Auto Kerning is O Use the spacebar enter horizontal s	N ONLY to	1.0 sw   1.5 sw > 4.0 sw <
Legend Text Legend Postioning Met	M 18	Đ	Mai	Text Color White mually Pick Insert Poir	) Black
Auto Placement Positio Below Left     Below Middle		elected obje	ect) e Left e Middle	Manual Insert Poir Bottom M Offset Gap	iddle 👻
🔘 Below Right			e Right Cancel		2

#### **General Operation:**

Enter the route number values as appropriate in the Legend Text entry box

Select the Text Colour: (White for blue backgrounds, black for yellow backgrounds)

Enter the desired gap in the **Offset Gap** entry box

Choose the desired Legend Positioning Method

Select the **OK** button to place the patch on your drawing

Legend Positioning Method:

Legend Postioning Method

Auto Placement (select another object)

Manually Pick Insert Point

Legends can be placed on a drawing manually (you pick the legend insert point on the drawing) or can be auto placed (you select a object on your drawing)

#### **Auto Placement:**

First select **Auto Placement** as the legend positioning method

Auto Placement Position (referenced to selected object)								
Below Left	🔘 Left	Above Left						
Below Middle		Above Middle						
🔘 Below Right	🔘 Right	🔘 Above Right						

Then choose the desired position (with reference to the object on the drawing that you will select) from the list of radio buttons:

Enter the desired gap in the **Offset Gap** entry box

Offset Gap		
	2	

Example: To auto position a route number 2sw from the bottom left of a text legend, pick the **Bottom Left** radio button and then pick the **OK** button, the tool will respond thus:

*Command: UKTLEGENDS Select object to align legend to:* 

Select the object to align the legend text to



#### Manually Pick Insert Point:

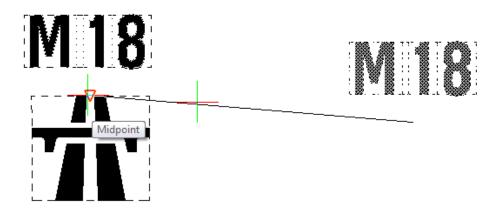
To manually position a text legend

First select **Manually Pick Insert Point** as the positioning method

Then pick an insert point option from the pop up list of insert points then enter the desired **Offset Gap** 

Man	ually Pick	Insert Point	
	Manual	Insert Point of Le Bottom Middle	egend
	Offset	Gap	4

Example: Insert point offset 4sw from the Bottom Middle of the text legend



#### Bilingual Mileage Legends:

To add a Bilingual Mileage Legend pick the **Bilingual Mileage Legends** icon

The dialog shown below will be displayed

Bilingual Mileage Legend		x
Word Order © Welsh/English © English/Welsh		miles filltir
Distance:         2           Fraction	Background Color of Sign or P Dark (Green, Blue, Brown, Light (White or Yellow)	
Legend Postioning Method Auto Placement (select another object)	Manually	Pick Insert Point
Auto Placement Position (referenced to sele Below Left C Left	ected object) Ma	Top Middle
<ul> <li>Below Middle</li> <li>Below Right</li> <li>Right</li> </ul>	Above Middle     Of     Above Right	fset Gap 0.5
	OK Cancel	

#### **General Operation:**

Select the **Word Order** Welsh or English first

Enter a whole number value in the **Distance** entry box

Choose a Fraction or none

Select the Background Colour of Sign or Panel:

Choose the desired Legend Positioning Method

Enter the desired gap in the Offset Gap entry box

Select the **OK** button to place the legend on your drawing

#### Legend Positioning Method:

Legend Postioning Method Auto Placement (select another object))

Manually Pick Insert Point

Bilingual Mileage Legends

millulitin

filltir

Legends can be placed on a drawing manually (you pick the legend insert point on the drawing) or can be auto placed (you select a object on your drawing)

#### **Auto Placement:**

First select **Auto Placement** as the legend positioning method

Auto Placement Position (referenced to selected object)			
Below Left	🔘 Left	Above Left	
Below Middle		Above Middle	
Below Right	🔘 Right	Above Right	

Then choose the desired position (with reference to the object on the drawing that you will select) from the list of radio buttons:

Enter the desired gap in the **Offset Gap** entry box

*Command: UKTLEGENDS Select object to align legend to:* 

Select the object to align the legend text to



#### Manually Pick Insert Point:

To manually position a text legend

First select **Manually Pick Insert Point** as the positioning method

Then pick an insert point option from the pop up list of insert points then enter the desired **Offset Gap** 

*Command: UKTLEGENDS Pick legend insert point:* 

Manually Pick Insert Point			
	Manual	Insert Point of Le	egend
		Bottom Middle	•
	Offset (	Gap	
			4



#### **Bilingual Yardage Legends:**

To add a Bilingual Yardage Legend spick the **Bilingual Yardage Legends** icon

The dialog shown below will be displayed

Bilingual Yardage Lege	nd				×
Word Order © Welsh/English @ English/Welsh					Z yards Uath
Distance:	400 🔘	ckground Color of Sign o Dark (Green, Blue, Brow Light (White or Yellow)		c)	
Legend Postioning Me		t)	Manually	y Pick Insert Point	
Auto Placement Positi	on (referenced to s	elected object)	Ma	anual Insert Point of Top Middle	Legend
Below Middle	© Right	O Above Middle	0	ffset Gap	
Below Right	<b>_</b>	OK Car	ncel		0.5

#### **General Operation:**

Select the Word Order Welsh or English first

Enter the whole number value in the **Distance** entry box

#### Select the Background Colour of Sign or Panel:

Choose the desired Legend Positioning Method

Enter the desired gap in the Offset Gap entry box

Select the  $\mathbf{OK}$  button to place the legend on your drawing

#### Legend Positioning Method:

Legend Postioning Method

Auto Placement (select another object))

Manually Pick Insert Point

Legends can be placed on a drawing manually (you pick the legend insert point on the drawing) or can be auto placed (you select a object on your drawing)

#### **Auto Placement:**

First select **Auto Placement** as the legend positioning method

Auto Placement Position (referenced to selected object)			
Below Left	🔘 Left	Above Left	
Below Middle		Above Middle	
🔘 Below Right	🔘 Right	O Above Right	

Then choose the desired position (with reference to the object on the drawing that you will select) from the list of radio buttons:

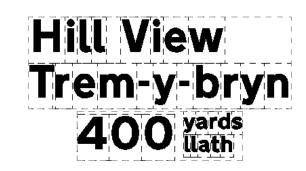
Enter the desired gap in the Offset Gap entry box

Offset Gap	
	0.5

Example: To auto position a legend number 0.5sw from the bottom middle of a text legend, pick the **Bottom Middle** radio button and then pick the **OK** button, the tool will respond thus:

*Command: UKTLEGENDS Select object to align legend to:* 

Select the object to align the legend text to



#### **Manually Pick Insert Point:**

To manually position a text legend

First select **Manually Pick Insert Point** as the positioning method

Then pick an insert point option from the pop up list of insert points then enter the desired **Offset Gap** 

*Command: UKTLEGENDS Pick legend insert point:* 

Man	ually Pick Insert Point
	Manual Insert Point of Legend Bottom Middle
	Offset Gap



#### Patches & Panels

Operation: *CONE10UK pull down menu Chapter 7 Sign Design -> Patches & Panels* 

	Chapter 7 Sign Design 💦 🕨	Α	Text Legends
	Curve Tools	P	Patches & Panels
		P	Route Arms
٦	Devices Along a Curve	÷0	Roundabouts
	Sign Schedule	•	Arrows & Symbols
			Alignments & Frames
	Help and Information		Layer Toggles
	Modify Text or Data On Signs	<b>1</b>	Finalise Sign
_			2

Or select the icon from the Cone Sign Design Toolbar



The following dialog will load

There are seven tools in Panels and Patches:

Create a panel from objects you have already added to your drawing (Text legends, symbols, arrows, patches etc.)

Four notch a panel tools (Top left, top right bottom left and bottom right)

Add a route number patch

Add a motorway junction number patch

CONE - Sign Design: Panels and Patches	×		
Create a Panel	Notch a Panel		
Create A Panel From Objects Docks			
Route Patches	Junction Number Patches		
Add Route Patch	Motorway Junction Number Patches		
M1 North			
((A 112))	23A) 4 <sup>1</sup> 2m		
Cancel			

#### Create a panel from objects:

Pick the Create a Panel from Objects icon

The tool will respond thus:

Command: *CPANELS CREATE A PANEL: Select all objects to include in the panel Select entities:* 

Use normal CAD selection methods to select all the objects to include in the panel and press the enter key when done selecting

Create a Panel
Create A Panel From Objects
Docks

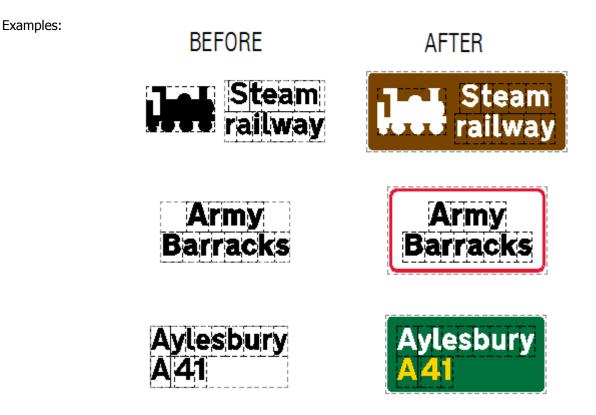
Depending on the primary font of the objects selected; the tool will next display one of the following dialogs

Set Panel Colours	×	Create a Panel From Objects
Font is Transport Heavy Text colour will be Black Panel background colour will be White MoD Panel Options If this panel is an MoD panel the border will be Red If the panel will be Red If the panel will be placed on a dark background sign a White edge will be required Is this a MoD panel? Will it have a White edge?	Panel	Font is Transport Medium Text colour will be mainly White The panel colour can be Black Green, Blue, Brown or Red If the panel will be placed on a dark background sign a White Border will be required Select Panel Colour Black Blue Blue Brown Green Red Will it have a White Border?

If the primary font is **Transport Heavy** the only options are MoD Panel options i.e. Is it a MoD panel (red border) and if so will it have a white edge (will the panel be placed on a dark background sign)

If the primary font is **Transport Medium** then you need to select the panel background colour and choose whether the panel will have a white border (will the panel be placed on a dark background sign)

Select the **OK** button to convert the objects selected to a panel



#### Notch a Panel:

Pick one of the four Notch a Panel icons (example: bottom right)

The tool will respond thus:

Command: *CPANELS* Select an existing panel to add bottom right cut-out Drag mouse to indicate notch position, pick point to finish

Select a panel and move your mouse, the cut out will be shown as a dotted line Pick a point to finish



Notch a Panel	



Note: Only one notch per panel is allowed, if you make a mistake simply select the notch a panel tool again The existing notch will be deleted and the new notch created (A|1234)

Auto Placement Position (referenced to selected object)

C Left

Right

Auto Placement (select another object)

#### **Route Patches:**

To create a route patch pick the Add a Route Patch icon



Route Patches
Add Route Patch
M1 North
((A 112))

Manually Pick Insert Point

Offset Gap

Manual Insert Point of Patch

Bottom Left

х

÷

2.5

Enter the desired route number in the **Text** entry box

Choose the **Background Colour** of the sign or panel the route patch will be part of

Enter the desired gap in the **Offset Gap** entry box

Choose the desired **Patch Positioning Method** 

Select the **OK** button to place the patch on your drawing

Patch Positioning Method:

Patch Postioning Method

Add a Route Patch

Patch Postioning Method

Below Left

Below Middle

Below Right

Text:

Auto Placement (select another object)
 O Manually Pick Insert Point

Background Color of Sign or Panel

Light (White or Yellow)

Above Left

Above Middle

Above Right

OK

Oark (Green, Blue, Brown, Red)

Cancel

Patches can be placed on a drawing manually (you pick the patch insert point on the drawing) or can be auto placed (you select a object on your drawing)

#### **Auto Placement:**

First select **Auto Placement** as the patch positioning method

Then choose the desired position (with reference to the object on the drawing that you will select) from the list of radio buttons:

Auto Placement Position (referenced to selected object)				
Below Left	🔘 Left	Above Left		
Below Middle		O Above Middle		
🔘 Below Right	🔘 Right	Above Right		
	Offset Gap	2.5		

Enter the desired gap in the **Offset Gap** entry box

Example: To auto position a patch 2.5sw from the bottom left of a text legend, pick the **Bottom Left** radio button and then pick the **OK** button, the tool will respond thus:

Command: *CPANELS* Select object to align patch to:

Select the object to align the patch to



#### Manually Pick Insert Point:

To manually position a patch

•

First select **Manually Pick Insert Point** as the patch positioning method

Then pick an insert point option from the pop up list of insert points then enter the desired **Offset Gap** 

Manually Pick Insert Point				
	Manual Insert Point of Patch	•		
	Offset Gap	5		

Example: Insert point offset 2.5sw from the Top Left corner of the patch



Motorway Junction Number Pa	itches:		- Junction Num	aber Datches	
To create a motorway patch pick the <b>Motorway Junction Number Patch</b> icon		Motor	rway June		
23A + 23A <sup>1</sup> 2 m			Num 23A	) [4] [2	m
ſ	Motorway Junction Number Patche	żs			×
	Patch Type O Junction Number O Junction and Distance			4	12 m)
	Text		Fractions		
	Junction Number:	23A	13 14	12 23	3 <sub>A</sub>
	Distance:	√2 m	# 1. Click a chara 2. Position the appropriate tex paste (Ctrl V) o	cursor in the xt edit box &	
	Patch Postioning Method				
	Auto Placement (select another of a select	object)	Manually	Pick Insert Point	
	Auto Placement Position (reference	d to selected object)	Ma	anual Insert Point of P	Patch
	Below Left Left	Above Left		Bottom Left	
	Below Middle	Above Midd	le Of	ffset Gap	
	Below Right	it 💿 Above Righ	t		2.5
		ОК	Cancel		

Select the Patch Type: Junction Number or Junction Number + Distance

Enter the Junction Number and Distance values as appropriate in the **Text** entry boxes

Enter the desired gap in the Offset Gap entry box

Choose the desired Patch Positioning Method

Select the **OK** button to place the patch on your drawing

#### **Patch Positioning Method:**

Patch Postioning Method
 Auto Placement (select another object)

Manually Pick Insert Point

Patches can be placed on a drawing manually (you pick the patch insert point on the drawing) or can be auto placed (you select a object on your drawing)

#### **Auto Placement:**

First select **Auto Placement** as the patch positioning method

Auto Placement Position (referenced to selected object)			
Below Left	🔘 Left	Above Left	
🔘 Below Middle		Above Middle	
🔘 Below Right	🔘 Right	🔘 Above Right	

Then choose the desired position (with reference to the object on the drawing that you will select) from the list of radio buttons:

Enter the desired gap in the Offset Gap entry box

Offset Gap	
	2.5

Example: To auto position a patch 2.5sw from the bottom left of a text legend, pick the **Bottom Left** radio button and then pick the **OK** button, the tool will respond thus:

Command: *CPANELS Select object to align patch to:* 

Select the object to align the patch to



#### **Manually Pick Insert Point:**

To manually position a patch

First select **Manually Pick Insert Point** as the patch positioning method

Then pick an insert point option from the pop up list of insert points then enter the desired **Offset Gap** 

Manually Pick Insert Point				
	Manual Insert Point of Patch Top Left			
	Offset Gap			

Example: Insert point offset 0.5sw from the Top Left corner of the patch



#### Arrows, Symbols and other Signs

From the CONE10UK pull down menu select *Chapter 7 Sign Design -> Arrows & Symbols* 

Or pick the **aircraft** icon from the Cone Sign Design toolbar

CON	E10_l	JK_S	Sign_Design_T 🔤
Α	P	Þ	*) 🕂 🗖 🐼

Chapter 7 Sign Design	A Text Legends
Curve Tools	Patches & Panels
J Devices Along a Curve	Route Arms
J Devices Along a Curve	Roundabouts
📰 Sign Schedule	Arrows & Symbols
Help and Information	Alignments & Frames Layer Toggles
Modify Text or Data On Signs	Finalise Sign

The Arrow and Symbols dialog will be presented:

CONE - Sign Design: Arrows and Symbols					
DIRECTION ARROWS	LANE ARROWS	S SERIES SYMBOLS	DIVERSION SYMBOLS		
			$\bigcirc \diamondsuit \square$		
TOURIST SYMBOLS	LAME LINES	HOSPITAL SYMBOLS	TRAFFIC SIGNS		
Ĺ					
follow + SYMBOLS					
follow 🗢 dilynwch 🗢					
Cancel					

The current version of CONE 10 (August 2013) provides access to a range of arrow, symbol and sign types as shown above, future versions may include additional types.

The methods used for selection and placing on a drawing (with the exception of manual positioning of LANE LINES) are identical for each type.

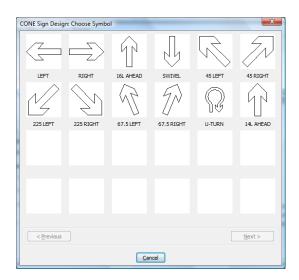
The following text describes the actions required and the options available for placing a DIRECTION ARROW on a drawing. Additional instructions for manually positioning LANES LINES are show separately at the end of this section.

Direction Arrows are selected by picking the DIRECTION ARROWS icon

DIRECTION ARROWS

Direction Arrows:	ONE Sign Design: Direction Arrows		<b>X</b>
		Click the icon to select a different symbol Directional symbols can point Left or Right Change Direction © Left © Right	Auto Placement Symbol Above Object Selection Text, Patches Panels, Arrows Other Symbol Belaw
	Symbol Positioning  Auto Placement  M	Ianual Placement	Note: Vertical spacing follows the VERTICAL BLOCK SPACING rules in Chapter 7 - Fig 5.14
	Insert Point for Manual Placement		For VERTICAL LINE SPACING select
	Top Left	🔘 Top Right	For VERTICAL LINE SPACING select Manual Placement. For details see Chapter 7 - Fig 5. 13 or press Help
	🔘 Middle Left	Middle Right	Auto Placement Position
	🔘 Bottom Left 👘 Bottom Midd	lle 💿 Bottom Right	Below Left     Below Middle     Above Middle
	Offset Gap: (Insert point to edge of sy	rmbol) 2.5	Below Right Right Above Right
		OK Cancel	Help

To change the current symbol click the top left icon and pick the desired symbol from the sub-dialog that will be presented



Symbols that have both Left hand and Right hand versions can be quickly swapped by using the **Change Direction** radio buttons



#### Symbol Positioning:

Symbol Positioning Auto Placement

Manual Placement

Symbols can be placed on a drawing manually (you pick the symbol insert point on the drawing) or symbols can be Auto placed (you select objects on your drawing)

#### **Auto Placement Position:**

Select the desired position with reference to the object on the drawing that you will select from the list of radio buttons:

Example: To auto position an arrow to the left of a text legend, pick the Left radio button and then pick the **OK** button, the tool will respond thus:

Command: CSYMBOLS Select object or objects to align symbol to: Select entities

Select the text legend block and press the return key, the arrow will be positioned to the left with the correct horizontal gap and vertical position

Symbol Positioning

Top Left

Middle Left

Bottom Left

Auto Placement

Insert Point for Manual Placement

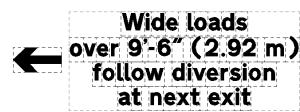
Offset Gap: (Insert point to edge of symbol)

#### **Manual Positioning:**

To manually position a symbol pick: Manual Placement then pick an Insert Point for Manual Placement option then enter the desired Offset Gap

Example: Insert point offset 2.5 sw from the Middle Right of the symbol.

The cursor insert point is set to 2.5 sw distance from the middle right end of the arrow, use normal positioning methods (OSNAP etc) to place the symbol on the drawing



Top Middle

Bottom Middle

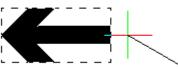
Manual Placement

Top Right

Middle Right

Bottom Right

2.5





Auto Placement Position				
Below Left	Left	Above Left		
Below Middle		O Above Middle		
Relow Dight	🔘 Right	Above Dight		

#### Manually positioning lane lines:

This variation only applies to three types of horizontal and vertical lines selected from the LANE LINES section of Arrows & Symbols, and when choosing the manual position method.

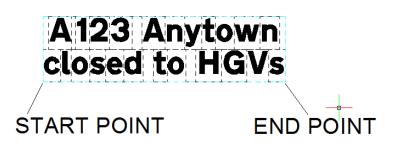
DNE - Sign Design: Arrows ar	nd Symbols		×
DIRECTION ARROVS	LAME ARROWS	S SERIES SYMBOLS	DIVERSION SYMBOLS
R .			$\bigcirc \diamondsuit \square$
TOURIST SYMBOLS	LAHE LINES	HOSPITAL SYMBOLS	TRAFFIC SIGNS
follow + SYMBOLS			
dilynwch 🗢			
	Ca	ncel	

The length of the vertical of horizontal line is determined by picking two points on a drawing

See example below:

CONE Sign Desig	n: Choose Symbo				×
CHEVRONS	ALTERNATIVE	ALTERNATIVE			
	T				
1 DASH	2 DASH	3 DASH	4 DASH	5 DASH	6 DASH
END PT	HORIZONTAL BAR 1.0 sw	HORIZONTAL BAR 0.5 sw			
VARIABLE	H-BAR 1sw	H-BAR 0,55W			
< <u>P</u> revious					<u>N</u> ext >
		Cano	el		

You are prompted to pick the start point and the end point of the line



The bar is drawn and you then position it as required



### **Route Arms**

Creating route arm is a two or three step process

- 1. Add a base route arm
- 2. Add additional arm(s)
- 3. Stretch arms as required

Chapter 7 Sign Design	A Text Legends
Curve Tools	Patches & Panels
	Route Arms
Devices Along a Curve	i Roundabouts
🕅 Sign Schedule	🕂 Arrows & Symbols
	Alignments & Frames
Help and Information	Layer Toggles
Modify Text or Data On Signs	Finalise Sign

From the CONE10UK pull down menu select *Chapter 7 Sign Design -> Route Arms* 

Or pick the **route arm** icon from the Cone Sign Design toolbar

CONE10_UK_Sign_Design_T 🔤		
A 🖻 🕑 🗇 🕂 🗖 🛛	1	

The Route Arms dialog will be

Add Base Route Arms Add Route Arms

Route Arms Inline Stretch Route Arms Free Stretch Route Arms Stretch 2/3rds Align Vertical Route Arm

presented

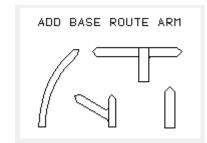
Options:

CONE - Sign Design Route Arms		X
ADD BASE ROUTE ARM		ROUTE ARM INLINE STRETCH
ROUTE ARM FREE STRETCH	STRETCH TWO THIRDS	
	Cancel	

#### Add Base Route Arms:

To add a base route arm pick the ADD BASE ROUTE ARM icon

This action will load a dialog window



There are several base route arm configurations to choose from, select from the central list and a corresponding image will be displayed with labels that indicate the number of arms.

For example the Vertical base route arm has only one arm labeled ARM A, whereas the Crossroad base route arm has four arms labeled A, B C and D

The Arm Width radio buttons enable you to choose the width of each arm of the chosen base configuration, except in the case of Grade Separated 1 and 2, these arms have a fixed width of 5sw

Select the **OK** button to position the arm on your drawing

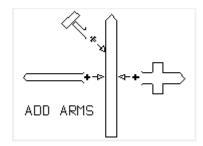
Vertical Curved Left Side Road Left Side Road Right T-Junction Crossroad Grade Seperated 1 Grade Seperated 2	Arm Widths           Arm A                 6 sw
OK Cancel	

The width of each route arm on map type signs is generally related to the status of the route indicated. 6 sw is used for primary routes and motorways, 4 sw for numbered non-primary routes and 2.5 sw for unnumbered local routes.

Where a bracketed route number is indicated along an unnumbered local route, the route arm width is 4 sw.

#### Add Arms:

To add additional arms to base route arm pick the ADD ARMS icon



Add Route Arms: Arms, Stubs, and Cu	ul-de-sacs		
	Select Type		Angle - Anti-clockwise from 3 'o clock
	Route Arm		135" ^
	C Stub Arm		
	🔘 Cul-De-Sac - Li	ght Background	
Choose Arm Type, Width then Angle - Cul-de-sacs are	🔘 Cul-De-Sac - D	ark Background	
fixed at 2.5 sw	Staggered		
NOTE!	Arm Width	W (Staggered Only)	
Arms are designed to be placed	🔘 6 sw wide	🔘 6 sw wide	210-
onto a base route arm that has been previously inserted in	4 sw wide	④ 4 sw wide	
the drawing	© 2.5 sw wide	🔘 2.5 sw wide	Select Angle 45 Enter Angle 45
		OK Cancel	

**Select Type:** There are five types of arm to choose from, Route Arm, Stub Arm, Cul-De-Sac for Light Backgrounds, Cul-De-Sac for Dark Backgrounds and Staggered, select the appropriate radio button, the preview image will change to suit

Arm Width: Choose from 2.5, 4 and 6sw except for Cul-De-Sac types which are fixed at 2.5sw

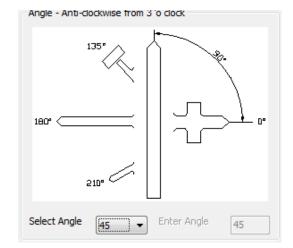
**W (Staggered only):** Staggered type has an additional dimension (W) option as shown

#### Arm Angle:

The angle of the arm can be selected from the **Select Angle** list.

Or if you require an angle that is not on the list, then select **OTHER** from the list and enter the desired angle in the **Enter Angle** edit box.



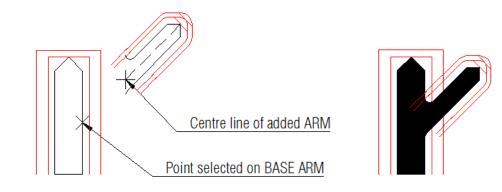


Select the OK button to select an existing base route arm, the tool will respond with:

#### Command: CRARMS

*Select base route arm* (Select the base route arm at the approximate position required)

The point at which you select the base route arm corresponds to the end point of the centre line of the arm being added as shown below:



Note: Positioning and stretching of arms is performed visually, however either arm can be subsequently moved independently of each other using standard CAD move commands (setting ORTHO on is useful) and if real pinpoint accuracy is required then you can add construction lines as an aid

Tip: Turning layer CONEFILLED off and layer CONESIMPLE on will show the arms in outline mode as shown above or user the Cone menu selection: Cone Sign Design: > Layer Toggles: >Colour ON/OFF

#### **IMORTANT POINTS**

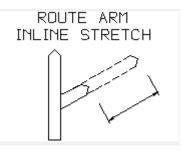
You should not add additional arms to Grade Separated Base Arms

#### **Route Arm Inline Stretch:**

To stretch a route arm along the angle of the route arm pick the ROUTE ARM INLINE STRETCH icon

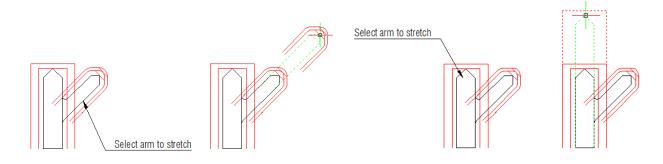
The tool will respond with

Command: CRARMS Select route arm to stretch



Select the arm that you want to stretch and move the cursor to the desired position, the arm plus no-go areas will dynamically update as you move the cursor, the direction will always follow the original arm angle, (except for curved base route arms which you can freely stretch) Pick a point to finish

Note: You cannot stretch an arm to a distance of less than 12.5 sw and you cannot stretch Stubs and Cul-de-sac's

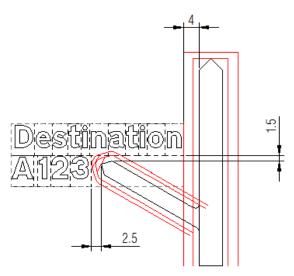


The arm tip no-go zones are marked in red; they have offsets from the outer outline of the route arms as follows:

Inclined route arms: 1.5 and 2.5 sw Vertical route arms: 1.5 and 4.0 sw

These offsets reflect the min spacing rules between route arms and other sign objects in: Chapter 7 – The Design of Traffic Signs (See pages 41 to 49)

An example is shown below (but refer to Chapter 7 for complete guidance)



#### **Route Free Stretch:**

To perform a free stretch of a route arm pick the ROUTE ARM FREE STRETCH icon

The tool will respond with:

Command: CRARMS Select route arm to stretch

Select the arm that you want to stretch and move the cursor to the desired position, the arm plus no-go areas will dynamically update as you move the cursor, you may stretch in any direction thereby changing the angle arm angle, pick a point to finish

Note:

You cannot stretch an arm to a distance of less than 12.5 sw

You cannot FREE stretch a fixed vertical or horizontal base route arm (use Inline Stretch to adjust those types of arms)

You cannot free stretch Stubs, Cul-de-sac's and staggered arms

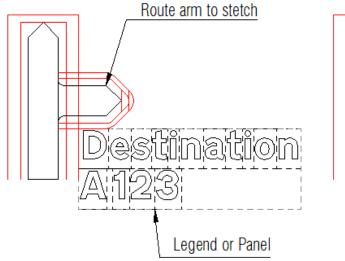
#### **Stretch Two Thirds:**

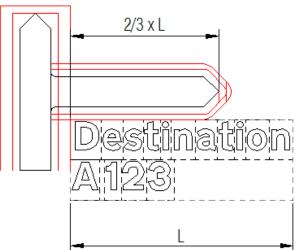
To stretch a HORIZONTAL route arm to a point two thirds along the length of a text legend or panel pick the STRETCH TWO THIRDS icon

The tool will respond with

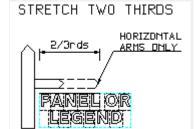
Command: CRARMS Select horizontal route arm to stretch two thirds (select a horizontal route arm)

Select panel or legend (select a panel or text legend)



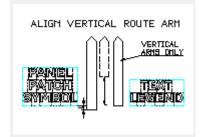






#### Align Vertical Route Arm:

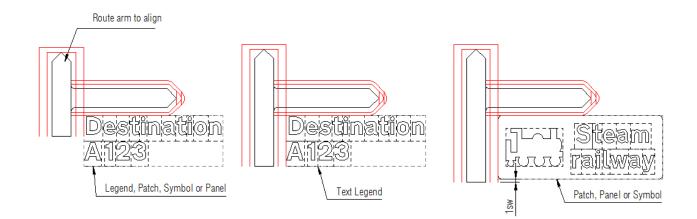
To align the base of a vertical route arm with the base of a text legend, panel, patch or symbol pick the ALIGN VERTICAL ROUTE ARM icon



The tool will respond with

Command: CRARMS *Select vertical route arm to align* (select a vertical route arm)

Select panel patch symbol or legend to align to (select a panel, patch, legend or symbol)

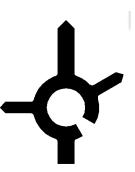


Note: Text legends and route arms will base align exactly, for Patches, Panels and Symbols the base of the route arm will extend 1sw below the base of the patch, panel or symbol.

#### Roundabouts

Creating roundabout is a two or three step process

- 1. Add a base roundabout
- 2. Add additional exit arm(s), stubs or cul-de-sacs
- 3. Stretch and rotate arms as required



From the CONE10UK pull down menu select *Chapter 7 Sign Design -> Roundabouts* 

Or pick the **roundabout** icon from the Cone Sign Design toolbar

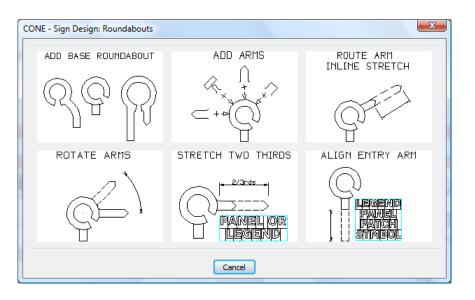


Chapter 7 Sign Design 🔹 🕨	A Text Legends
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Help and Information	Alignments & Frames
Modify Text or Data On Signs	Finalise Sign

The roundabouts dialog will be presented

Options:

Add Base Roundabout Add Arms Route Arms Inline Stretch Rotate Arms Route Arms Stretch 2/3rds Align Entry Arm



#### Add Base Roundabout:

To add a base route arm pick the ADD BASE ROUNDABOUT icon

This will load a dialog window



There are several base roundabout configurations to choose from, select from the right hand list and a corresponding image will be displayed.

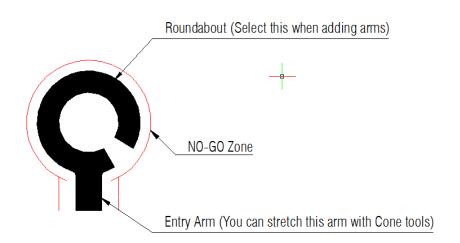
The **Entry Arm Width** radio buttons enables you to choose the width of the associated entry arm

Roundabouts: Choose a Base Roundabout	×
ENTRY ARM WIDTH	Normal - Cut-out 45 degrees         Normal - Cut-out 60 degrees         Normal - Offset 2.0 sw         Normal - Left Hand Curved Approach         Normal - Right Hand Curved Approach         Normal - U-Turn         Entry Arm Width (all roundabouts )
ОК	Cancel

The width of the entry arm on map type signs is generally related to the status of the route indicated. 6 sw is used for primary routes and motorways, 4 sw for numbered non-primary routes and 2.5 sw for unnumbered local routes. Where a bracketed route number is indicated along an unnumbered local route, the route arm width is 4 sw.

Select the **OK** button and position the roundabout on your drawing

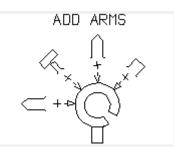
A base roundabout contains two separate parts, the Entry Arm (which you can stretch using the Cone tools that are described in the next few pages) and the central roundabout portion, something to bear in mind if you need to move or copy the base roundabout within your drawing.

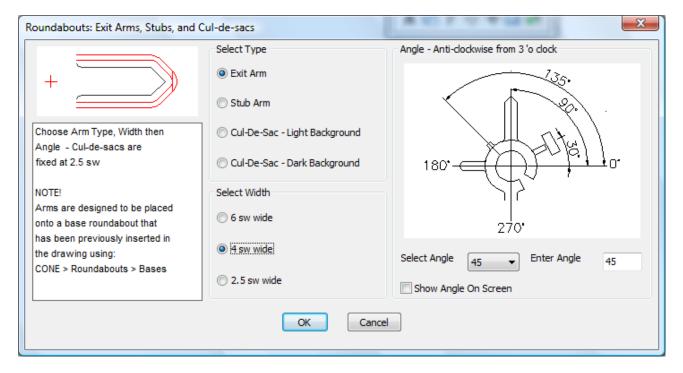


#### Add Arms:

To add additional arms to base roundabout pick the ADD ARMS icon

The dialog window shown below will be displayed

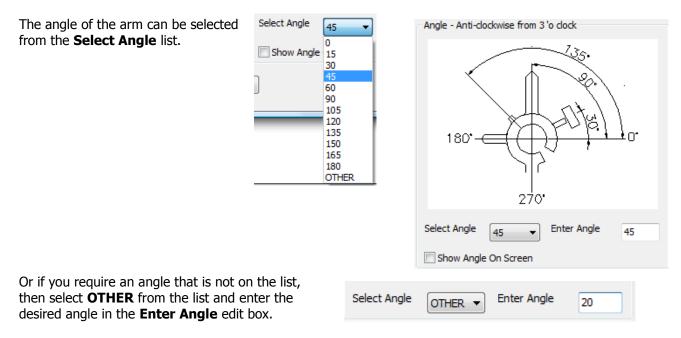




**Select Type:** There are four types of arm to choose from, Exit Arm, Stub Arm, Cul-De-Sac for Light Backgrounds and Cul-De-Sac for Dark Backgrounds, select the appropriate radio button, the preview image will change to suit

Arm Width: Choose from 2.5, 4 and 6sw except for Cul-De-Sac types which are fixed at 2.5sw

#### Arm Angle:



You can also "show" the angle by setting the Show Angle On Screen checkbox to on

When ready select the **OK** button to select an existing base roundabout, the tool will respond with:

Command: CROUNDABOUTS Select a base roundabout (Select a base roundabout)

If you have selected **Show Angle On Screen** then you will be able to rotate the arm around the centre of the roundabout and pick a point to set the angle, otherwise the arm will be positioned at the actual angle chosen.

#### **Route Arm Inline Stretch:**

To stretch a roundabout route arm along the angle of the route arm, pick the ROUTE ARM INLINE STRETCH icon



The tool will respond with

Command: CROUNDABOUTS *Select route arm to stretch* 

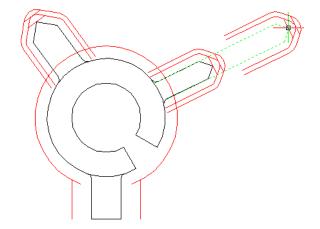
Select the arm that you want to stretch and move the cursor to the desired position, the arm plus no-go areas will dynamically update as you move the cursor, the direction will always follow the original arm angle. Pick a point to finish

Note: You cannot stretch an arm to a distance of less than 12.5 sw and you cannot stretch Stubs and Cul-de-sac's

The arm tip no-go zones are marked in red; they have offsets from the outer outline of the route arms as follows:

Inclined route arms: 1.5 and 2.5 sw Vertical route arms: 1.5 and 4.0 sw

These offsets reflect the min spacing rules between route arms and other sign objects in: Chapter 7 – The Design of Traffic Signs (See pages 41 to 49)



#### **Rotate Arms:**

To free rotate of a roundabout route arm pick the ROTATE ARMS icon

The tool will respond with:

Command: CROUNDABOUTS *Select arm to rotate* 

Select the arm that you want to rotate and either move the cursor to show the new angle and pick a point to finish or enter a new angle at the command line

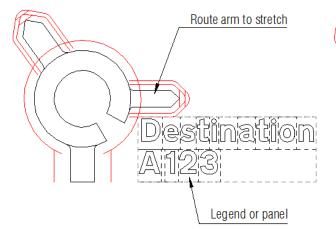
Stretch Two Thirds:

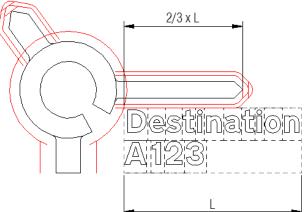
To stretch a HORIZONTAL route route arm to a point two thirds along the length of a text legend or panel pick the STRETCH TWO THIRDS icon

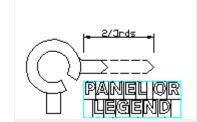
The tool will respond with

Command: CROUNDABOUTS Select horizontal route arm to stretch two thirds (select a horizontal route arm)

Select panel or legend (select a panel or text legend)







STRETCH TWO THIRDS

#### Align Entry Arm:

To align the base of roundabout entry arm with the base of a text legend, panel, patch or symbol pick the ALIGN ENTRY ARM icon

The tool will respond with

Command: CROUNDABOUTS Select vertical route arm to align (select a vertical route arm)

Select panel patch symbol or legend to align to (select a panel, patch, legend or symbol)

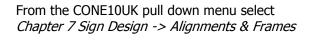


Note: Text legends and route arms will base align exactly, for Patches, Panels and Symbols the base of the route arm will extend 1sw below the base of the patch, panel or symbol.

ALIGN ENTRY ARM

#### Alignment & Frames

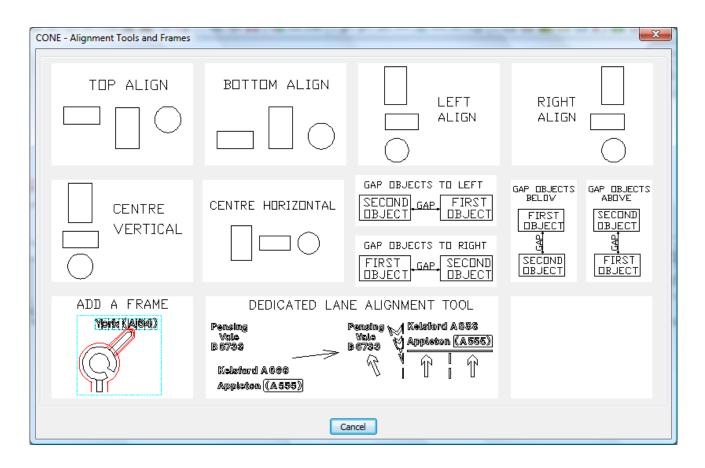
The alignments tools and frame facility contains several tools to assist in the accurate alignment of sign design objects



Or pick the icon from the Cone Sign Design toolbar



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There are six alignment tools: (Top, Bottom, Left, Right, Centre Vertical and Centre Horizontal)

There are four tools for "gapping" objects (Left, Right, Above and Below)

The Add a Frame tool contains several tools for adding frames to objects

The Dedicated Lane Alignment Tool is a special tool for adding arrows, vertical and horizontal bars to existing text legends

#### **Alignment Tools**

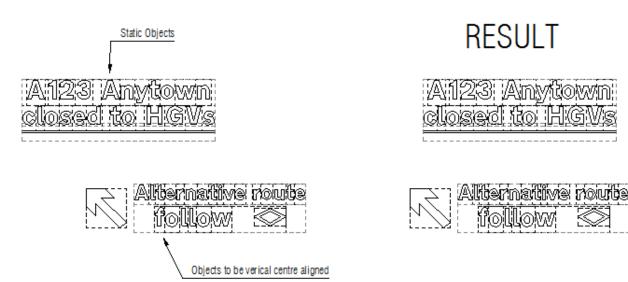
Aligns two objects or two sets of objects

Select the icon that matches your desired alignment

In the example shown below CENTRE VERTICAL has been chosen

Example to VERTICAL CENTRE ALIGN these two set of objects shown below select the CENTRE VERTICAL icon:





The tool responds thus:

Command: CATOOLS

Vertical aligned: Select the static object[s]

*Select entities:* (Select the objects that make up the static set using standard objects selection, press enter when done selecting)

#### *Now select other object[s] to be Vertical aligned to the static object[s]:*

*Select entities:* (Select the objects to be aligned using standard object selection methods, press enter when done selecting)

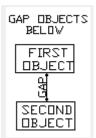
The second set will be moved to line up with the static objects

#### **Gapping Tools**

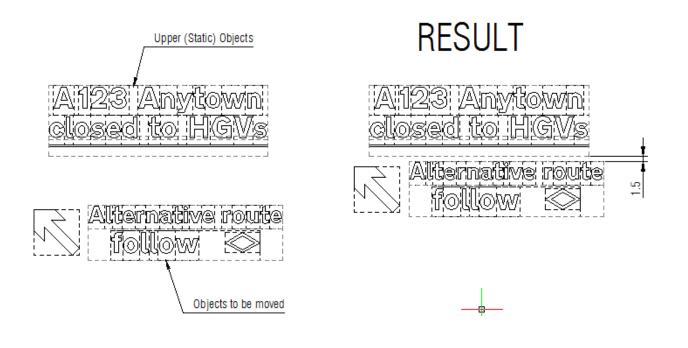
Sets the gap between two objects or two sets of objects

Select the icon that matches your desired alignment

In the example shown below GAP OBJECTS BELOW has been chosen



Example to set the gap between these two set of objects show below to 1.5sw select the GAP OBJECTS BELOW icon:



The tool responds thus:

Command: CATOOLS Select the first [Upper] objects *Select entities:* (Select the objects that make up the static set using standard objects selection, press enter when done selecting)

*Now select other objects to be to be below the first objects: Select entities:* (Select the objects to be below using standard object selection methods, press enter when done selecting)

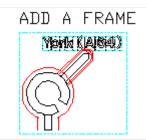
Enter the Gap between the objects: (enter a distance)

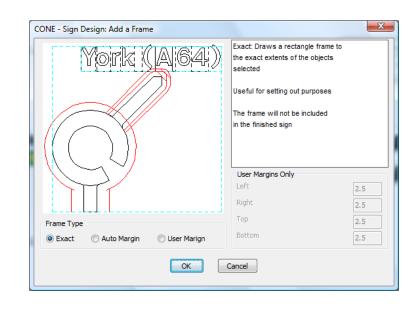
The second set will be moved up so there is a gap that you have specified between the bottom of the static objects and the top of the objects to be moved

#### Add a Frame

The Add a Frame tools add various frames to sign objects, the frames are not included in the finalised sign

Selecting the ADD A FRAME icon loads the dialog shown below:

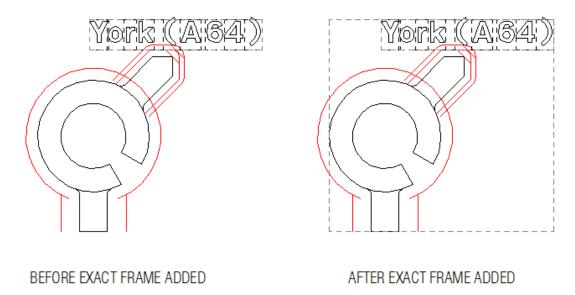




#### Exact:

Sometimes it's useful to add an exact frame around objects to assist in manual alignment, for example if you need to snap to the bottom left extents of the objects below, without the frame you would need to construct your own guide lines in order to reference the outermost corners.

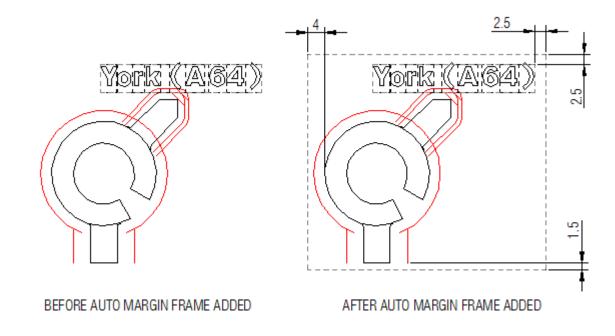
After a frame has been added, objects snaps can be set to the corners of the frame, note that the tool ignores any NO-GO zones and works to the extents of any legend tiles



#### Auto Margin:

Auto Margin mimics the inner border of a finished sign

See example below:



#### **User Margins:**

Cone automatically calculates the correct inner border margins when finalising the sign; however there are some instances when this will not meet the requirements.

Example: (see diagram below) When an overhead sign is mounted without a grey backing board then the top margin has to be increased from 2.5sw to 4.5sw. This is accomplished by adding a user margin of 4.5 for the top and the normal 2.5 for the other three margins.

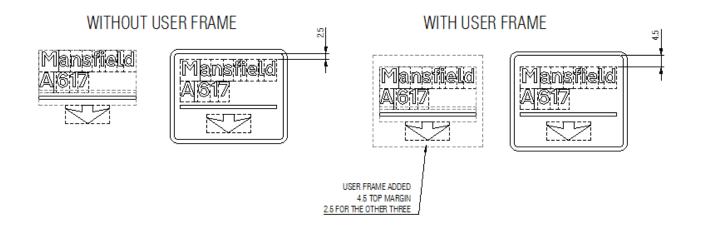
Input required user margins and select the OK button

You will then be prompted to select entities, use normal CAD methods for selection and press enter when finished selecting, the frame will be added to your sign objects

At sign finalisation time the finalisation tool detects the user frame and sets the inner border to be the same size of the User frame and the 4.5 top margin is achieved

Note: The User frame is not included in the finished sign

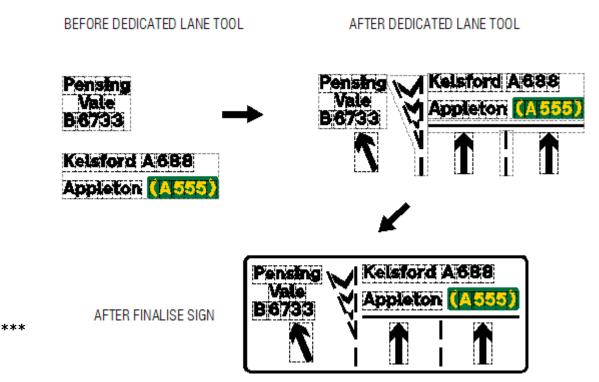
CONE - Sign Design: Add a Frame	User: Draws a blocked rectangle frame with user defined margins, mimicking the inner border on the finished sign If you select this special frame when finalising a sign, then the inner border will be the size of the frame irrespective of any other objects selected	E
	User Margins Only Left Right	2.5
Frame Type © Exact © Auto Margin © User Marign	Top Bottom	4.5 2.5



#### **Dedicated Lane Alignment Tool:**

The dedicated lane alignment tool automates most of the alignment and spacing tasks when creating dedicated lane signs

All the user needs to create are the objects (legends, panels, patches and symbols) for each lane or set of lanes, the dedicated lane tool adds the lane arrows, horizontal and vertical bars and takes care of the spacing and alignments.



#### \*\*\*Before using the tool create the sign objects for each lane or set of lanes \*\*\*

From the CONE10UK pull down menu select Chapter 7 Sign Design -> Alignments & Frames

Or pick the icon from the Cone Sign Design toolbar



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Then pick the DEDICATED LANE ALIGNMENT TOOL ICON to load the tool dialog

instructions		
Number of Sections)	This tool assists in the addition of lane arrows, horizontal bars and vertical lane lines	
	to destinations [text legends] that you have created in the current drawing	
<b>0</b> 2		
	1. Choose the number of sections required	
	2. Select the destination objects for each section	
	3. Select the lane arrow configuration for each section	E
3		
	Select the OK button to proceed, the destination objects you have chosen will be	
	aligned and the appropriate arrows, vertical lane lines and horizontal bars will be inserted	
4	will be inserted.	
	NOTE! You should check the results and re-align objects as required to obtain the	
click to selec destination objects		
4P		

First select the number of sections required (a section can contain between one and four lanes)

Then for each section select the destination objects, the dialog will temporarily disappear and you will be prompted to select objects for each section thus:

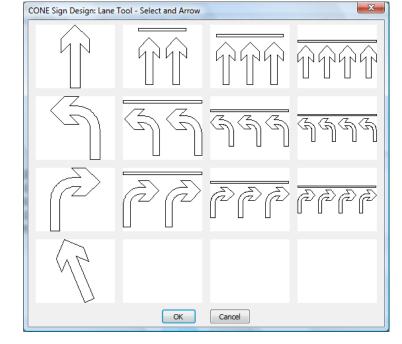
Command: CATOOLS Select Destination objects to include in Section 1 Select Entities:

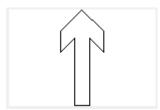
Use normal CAD methods for selection and press enter when finished selecting, the dialog will re-load and the section icon will have changed to confirm that a selection has been made. You can reselect objects at any time.

Next choose the lane arrow requirements for each section; click the arrow icon below each section, a sub dialog will be loaded

Click the icon that matches the lane arrow requirements for each section

Repeat for each section

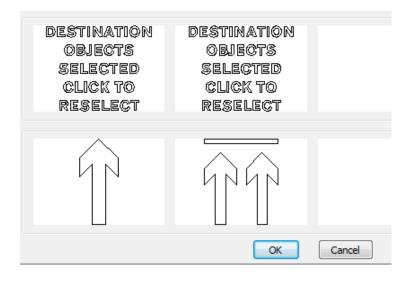




DESTINATION

OBJECTS

SELECTED CLICK TO RESELECT When all section objects and arrows are selected pick the OK button to finish



The original sign objects will be move and the arrows and lines will be added, you should double check that the result is to your requirements and make adjustments as required before finalising the sign

#### Finalise Sign

The Finalise Sign Tool adds borders and backgrounds to your sign design objects (legends, panels, symbols, patches, arrows etc)

The tool supports the creation of Single, Double, 3 Stack, 4 Stack and Left and Right Chevron plates

The tool has three modes:

- 1. Create a sign for manufacturing purposes only
- 2. Create a sign for TM plan purposes only
- 3. Both of the above

From the CONE10UK pull down menu select *Chapter 7 Sign Design -> Finalise Sign* 

Or pick the **Finalise** icon from the Cone Sign Design toolbar



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С	ONE UK: Sign Design: Create Finished Sign	×
	Sign Type	Purpose
	Single Plate     Double Plate	For Manufacture
	<ul> <li>3 Stack Plate</li> <li>4 Stack Plate</li> </ul>	) For use in TM Diagram
	C Left Chevron Right Chevron	Both
	Manufacturing Data Primary x height (mm)	100
	Background Colour Yellow   Green  Blue  White  Red  Brown	🔘 Black 🔘 Blue on White
	Scale © 1:10  None	
	OK Cancel	

Sign Type: Select the required plate type (Single, Double, 3 Stack, 4 Stack and Left or Right Chevron)

and adds a manufacturing data table (see below).

Sign Type Single Plate Oouble Plate 3 Stack Plate 4 Stack Plate Left Chevron Right Chevron Purpose For Manufacturing: Creates the finished sign from objects you select on screen For Manufacture The tool removes all CONEFRAME frames but keeps all CONETEXTTILE frames For use in TM Diagra Both

100

For use in a TM Diagram: Creates the finished sign from objects you select on screen and writes the result out as an external block in the "CONE10UK\USER" subfolder of your personal USER folder, this allows it to be located easily with the Sign/Browse/Insert Tool.

The finished size of this type of sign is proportional to all other CONE signs, the tool also removes all **CONEFRAME & CONETEXTTILE frames** 

**Note:** Your personal USER folder can be found by typing the following at the command line and press enter (include the brackets, spaces and quotes)

Command: (getenv "appdata")

**Purpose:** 

A typical response will be: "C:\\Users\\peter\\AppData\\Roaming"

So in this case the full path to the location will be "C:\\Users\\peter\\AppData\\Roaming\\CONE10UK\\USER"

Both: Creates a sign for both Manufacturing and TM purposes

Primary x height (mm)	Primary	хI	height	(mm)	):
-----------------------	---------	----	--------	------	----

Manufacturing Data Primary x height (mm)

If you know the required x-height you can enter it here or after the sign objects are selected. Changing this value DOES NOT alter the actual CAD finished sizes, it is used to calculate what the finished size of the sign would be based on the x-height entered, this information is shown in the manufacturing data table only

Example of finished sign complete with sign size data

Pensing Kelsford A888 Vale B 6733 Appleton (A555)
Scale: x-height = 4 units Text x height: 100 Plate Size (in mm) : Width: 3133, Height: 1325 Area: 4.15 sq m Colours: Black on White, Black Border Number Required: 1

#### **Background Colour:**

Background Colour

 Green Blue White Red Brown Black Blue on White

The background colour of the sign should be commensurate with the primary text font used for sign objects

Dark backgrounds use transport medium and light backgrounds use transport heavy

Scale:	Scale	
	© 1:10	None

This setting only affects signs for manufacturing purposes, if set to **none** the finished size will be as-is (The height of a text tile is 8 units)

If you set the scale to 1:10 then the finished size will be 10% of the finished size shown in the data table

Selecting the **OK** button will begin the sign finalisation

#### Signs for use in a TM diagram or both

If you have selected signs for use in a TM diagram or both then you need to give the TM diagram type a unique drawing **File name** and **Save** it in your USER folder

Save in:	USER		•	G 🤌 📂	<b></b>		
Desktop Desktop omputer Navorites	Name           7 TESTI00           7 TE	).dwg dwg dwg 4.dwg 4.dwg dwg dwg dwg dwg dwg dwg	Туре	Size		4 III +	Description Size: Created: Modified: Accessed Open as read-only IV Use preview Preview
	File <u>n</u> ame: Save as type:	Enter a drawing r	name here	$\geq$ ;	<u>S</u> ave Cance		

You can of course save it at any location on your hard drive(s) as long as you have write access, but be aware that when subsequently you insert the sign using the Insert User File option from within the Sign/Browse/Insert tool the starting point is always your USER folder + "\\CONE10UK\\USER"

Example: "C:\\Users\\peter\\AppData\\Roaming\\CONE10UK\\USER"

You can also create subfolders underneath the USER folder

#### Additional Information

CONE 10 UK:	Add Additional Information To Si	gn?		
Any informati and will appea	d a Sign Reference and Description on entered here will be embeded into ar on a Sign Query or Sign Schedule embed the information or Cancel to ign	-		
Reference ABC123				
Description	Town centre diverson sign			
	OK Cancel			

The next part is optional, any information you enter here will be stored with the sign for potential subsequent usage in a sign schedule

Enter a Reference and Description and pick the OK button or pick Cancel to ignore

#### Signs for Manufacturing Purposes and for TM Diagrams

If you select Signs for Manufacturing Purposes the previous steps will not be required

You will now be asked to select objects using normal CAD methods

Follow the command line prompts

Single, Left and Right only expect one set of objects

Double expects two sets, the upper objects first

3 and 4 stack expects three and four sets of objects respectively working in sequence from upper objects to lower objects.

After sign object selection the tool will present the Finished Plate Size dialog (except of left and right chevrons)

This will vary depending on the type of sign chosen

CONE Sig	n Design: Finished	Plate Size?			×
PLATE HEIGHT			Based on the x-heig of the sign will be as Change these value: Select OK to resize o	shown below s as required	v
	PLATE W		x-hgt		100
-			Plate Width		1184
Object	Justification		Plate height		575
🔘 Lef	t 🔘 Centre	Right	📝 Maintain Original	Width to Hei	ght Ratio
		ОК	Cancel		

#### Single Plate Signs

With single rectangular signs you may revise the actual x-height, plate width and height information that is included in the data portion of the finished sign

You can experiment by changing the x-hgt, plate width and plate height sizes to obtain the actual size required

#### Double, 3 Stack and 4 Stack Signs

CONE Sign Design: Multiple Plate - Specify Plat	e Justifications an	d X-Height?	X	
	Justification	Plate Size		
	🔘 Left	Based on the current x-hgt The height and width of the sig	n	
This plate is the widest	Ocentre	will be as shown below		
	🔘 Right	Change these values as require and select OK to continue	ed	
	Justification	x-hgt 100		
<i></i>	🔘 Left	Plate Width 954		
$\langle$ Justify this plate $=$ $\rangle$	Ocentre			
	🔘 Right	Plate Height 123	8	
	Justification			
	🔘 Left			
	Ocentre			
	🔘 Right			
	Justification			
	🔘 Left			
	Oentre			
	🔘 Right			
	ОК			
		The Carl of Party and Colors		

With multiple rectangular plates you need to specify the justification of each plate with respect to the widest plate (Left, right or centre justifies)

You can also revise the actual x-height, plate width and height information that is included in the data portion of the finished sign

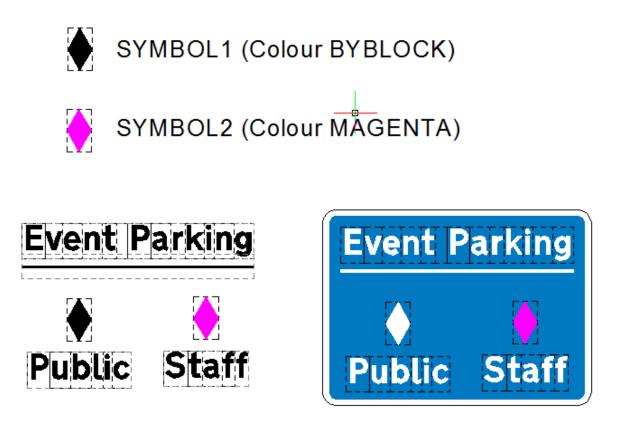
When you have finished revising plate sizes select the **OK** button and place the finished sign and data information on your drawing

Including Your Own Symbols

You can easily incorporate your own symbols onto signs or panels.

The sign finalisation tool will include any object as long as it is a BLOCK INSERT

In addition there is one other rule with reference to colour, if any entities contained within the block have a BYBLOCK colour setting then those entities will automatically change colour to true black or true white at sign finalisation time depending on the background colour of the sign



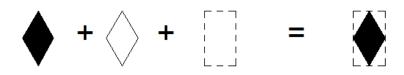
In SYMBOL1 the black filled diamond has a colour setting of BYBLOCK, whereas the filled diamond in SYMBOL2 has a colour setting of MAGENTA

In the final sign SYMBOL1 is automatically changed to true white because the background colour of the sign is dark (blue) whereas SYMBOL2 does not change colour

If you wish to completely copy the CONE method of symbol design then your symbols should contain three layers: CONEFILLED, CONESIMPLE and CONETEXTTILE

In the example below:

The filled diamond is placed on layer CONEFILLED with a colour of BYBLOCK The outline diamond is placed on layer CONESIMPLE with a colour of BYLAYER The dashed rectangle is placed on layer CONETEXTTILE with a colour of BYLAYER



### External Links

The sign design menu includes three web site links

Cha	pter 7 Sign Design	Þ	A	Text Legends	
Curv	/e Tools	•	P	Patches & Panels	
			P	Route Arms	
🏒 Devi	ces Along a Curve		-0	Roundabouts	
🖽 Sign	Schedule		÷	Arrows & Symbols	
		— <b></b>	Alignments & Frames		
Help	and Information	►		Layer Toggles	•
Mod	Dft Working Drawings			External Links	•
	Welsh Working Drawings Dft Traffic Signs Manual		2	Finalise Sign	

**Dft Working Drawings:** <u>https://www.gov.uk/working-drawings-for-traffic-signs</u>

*Link to website showing list of available drawings detailing the design of particular traffic signs together with PDF files of each drawing for download* 

Welsh Working Drawings: <u>http://www.traffic-wales.com/traffic\_signs.aspx</u>

*Link to website showing list of available drawings detailing the design of particular traffic signs together with PDF files of each drawing for download* 

Dft Traffic Signs Manual: https://www.gov.uk/government/publications/traffic-signs-manual

Link to website Traffic signs manuals 1 to 8

#### **Basic Tutorial**

In this basic tutorial you are going to create the sign shown here

The procedure involves the following steps:

- 1. Add legend text
- 2. Add an arrow symbol
- 3. Finalise the sign



In the finalisation process you will create both a sign design for **Manufacturing Purposes** and also a sign for subsequent use in a **Temporary Traffic Management Plan** 

Before commencing the tutorial we recommend you start a new drawing based on one of the supplied CONE templates or one of your own, either way we assume that your units are metric, decimal and your INSUNITS are set to zero

#### Step 1: Add legend text

From the CONE10UK pull down menu select *Chapter 7 Sign Design -> Text Legends* 

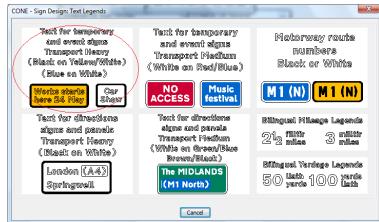
Or select the **A** icon from the Cone Sign Design Toolbar

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Chapter 7 Sign Design	▶ 🛕 Text Legends
Curve Tools	Patches & Panels
	- 🕑 Route Arms
🤳 Devices Along a Curve	🗄 Roundabouts
🕂 Sign Schedule	🕂 Arrows & Symbols
	Alignments & Frames
Help and Information	Layer Toggles
Modify Text or Data On Signs	Finalise Sign

From the dialog that appears next pick the top left icon:

Text for temporary and event signs -Transport Heavy (Black text on yellow or white backgrounds)



The text entry dialog for black text on yellow backgrounds will now be displayed.

Horizontal Spacing (stroke width	s)	Legend Preview (Aprox)		
Auto Kerning Auto Kerning is ON	0.5 sw <	Town centre		
Use the spacebar ONLY to	1,0 sw			
enter horizontal spaces	1,5 sw >			
gend Text	VSp	ace Alignment	Scale	
own	0	© L	100 🔻	Sample Legends
ntre	0	C ⊚ R	100 🔻	Fractions and Accents
		C . R	100 🔻	Welsh Accents
		© L @ C ⊚ R	100 🔻	
	0	○ L	100 🔻	13 14 12 23 34
	0	○ L	100 -	# \$
	0	© L @ C © R		<ol> <li>Click a character above</li> <li>Position the cursor in the</li> </ol>
	0	© L		appropriate text edit box & paste (Ctrl V) or right dick
Clear All Text Entries		Legend Insert Point		Bottom Left 🔹
		OK Cancel		

Enter the words **Town** and **centre** on separate lines with zero vertical space and centre alignment as shown above and pick the **OK** button to position the text legend on the drawing

The command prompt will respond thus:

*Command: UKTLEGENDS Pick legend insert point* Pick any point on your drawing

Your text legend should look like this



#### Step 2: Add an Arrow Symbol

From the CONE10UK pull down menu select Chapter 7 Sign Design -> Arrows & Symbols

Or pick the **aircraft** icon from the Cone Sign Design toolbar

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Chapter 7 Sign Design	A Text Legends
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Sign Schedule	Arrows & Symbols
Help and Information	Alignments & Frames
Modify Text or Data On Signs	Finalise Sign

From the Arrows and Symbols dialog

Select the **DIRECTION ARROWS** icon

CONE - Sign Design: Arrows and	d Symbols	COMPLEX OF TAXABLE	x
DIRECTION ARROWS	LAME ARROWS	S SERIES SYMBOLS	DIVERSION SYMBOLS
			◎◇□
TOURIST SYMBOLS	LAME LINES	HDSPITAL SYMBOLS	TRAFFIC SIGNS
Ĺ			
follow + SYMBOLS			
follow 🗢			
dilynwch 🗇			
	_		
	Ca	ancel	

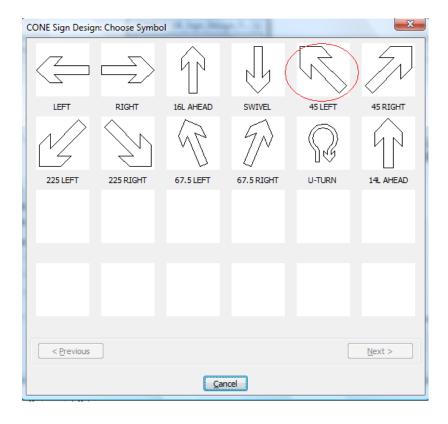
# The Direction Arrows dialog will now be displayed

Change the symbol type by clicking the left hand icon

Symbol Positioning	Click the icon to select a different symbol Directional symbols can point Left or Right Change Direction	Auto Placement Symbol Burger Symbol Left Symbol Cher Symbol Symbol Symbol Symbol Symbol Symbol Symbol
Auto Placement Insert Point for Mar	Manual Placement	Note: Vertical spacing follows the VERTICAL BLOCK SPACING rules
Top Left Middle Left Bottom Left Offset Gap: (Insert p	Top Middle     Top Right       Image: Bottom Middle     Middle Right       Image: Bottom Middle     Bottom Right	in Chapter 7 - Fig 5.14 For VERTICAL LINE SPACING select Manual Placement. For details see Chapter 7 - Fig 5.13 or press Help Auto Placement Position © Left © Right © Below © Above
	OK Cancel	Help

Pick the **45 LEFT** arrow icon from the next dialog that appears

This will select the 45 degrees left arrow symbol and return to the previous dialog



#### Ensure **Auto Placement** is selected and **Auto Placement Position** is set to **Left**

Press the **OK** button

	Dir po	ck the icon to select different symbol rectional symbols can int Left or Right Change Direction Change Direction	Symbol Left	Symbol Above Object Selection Text, Patches Panels, Arrows Other Symbols
Auto Placement     Insert Point for Ma		al Placement		Symbol Belaw I spacing follows the OCK SPACING rules
<ul> <li>Top Left</li> <li>Middle Left</li> </ul>	🔘 Top Middle	<ul> <li>Top Right</li> <li>Middle Right</li> </ul>	For VERTICA	L LINE SPACING select ment. For details see
<ul> <li>Bottom Left</li> </ul>	🔘 Bottom Middle	<ul> <li>Bottom Right</li> </ul>	Chapter 7 - F	ig 5.13 or press Help
	point to edge of symbo	l) 2.5	Auto Place	ment Position Right © Below © Above

The command prompt will respond thus:

*Command: CSYMBOLS Select object to align symbol to:* 

Pick the text legend and the arrow will be placed next to the text legend with correct spacing and alignment



#### Step 3: Finalise the Sign

From the CONE10UK pull down menu select *Chapter 7 Sign Design -> Finalise Sign* 

Or pick the **Finalise** icon from the Cone Sign Design toolbar

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The create Finished Sign dialog will appear

Ensure that you select:

Sign Type: Single Plate

Purpose: Both

Background Colour: Yellow

Primary x height: 100

And select the **OK** button

CONE UK: Sign Design: Create Finished Sign	×
Sign Type	Purpose
Single Plate     Double Plate	○ For Manufacture
<ul> <li>3 Stack Plate</li> <li>4 Stack Plate</li> </ul>	O For use in TM Diagram
C Left Chevron	Both
Manufacturing Data Primary x height (mm) Background Colour	100
Yellow     Green     Blue     White     Red     Brown     Scale     1:10     None	) Black 🔘 Blue on White
OK	

Because you are creating two types of sign , one for manufacturing purposes that will be created in the current drawing, and another for subsequent use in a TM diagram that will be stored on your hard disk you need to give the TM diagram type a unique drawing **File name** and **Save** it in your USER folder

Save in:	USER		•	· 🛈 💋 🛛	🤊 🛄 🔻		
	Name	Date modified	Туре	Size			Description
lesktop	TEST101.c	lwg					Size: Created: Modified:
(A) omputer	TEST99.dv fredddd.d TEST11.dv	wg				E	Accessed:
	fredddd4. TEST187.d TEST15.dv	lwg					Open as read-only
ent Items	TEST16.dv TEST14.dv TEST14.dv	vg vg					Preview
ι.	TEST17.dv	vg				-	
cuments	File name: (	Enter a drawing	name here	$\overline{}$	•	<u>S</u> ave	
	Save as type:	.dwg			•	Cancel	

The next part is optional, any information you enter here will be stored with the sign for potential subsequent usage in a sign schedule

Enter a **Reference** and **Description** and pick the **OK** button or pick **Cancel** to ignore

CONE 10 UK: Add Additional Information To Sign?						
Optionally add a Sign Reference and Description Any information entered here will be embeded into the sign and will appear on a Sign Query or Sign Schedule Select OK to embed the information or Cancel to ignore						
Reference	Reference ABC123					
Description	escription Town centre diverson sign					
	OK Cancel					

The command prompt will respond thus:

Command: UKSCREATE Single Plate: Select Sign Objects Select entities:

Select both the arrow and the text legend and press the enter key

The Finished Plate Size dialog will now appear offering the opportunity to revise the actual x-height, plate width and height information that is included in the data portion of the finished sign

From Chapter 8: Table A1.2 The minimum x-height for this type of plate is 60mm for a Single Carriageway -30mph road speed and 70mm for 40mph road speed

CONE Sign Design: Finished Plate Size?	X
	Based on the x-height entered the size of the sign will be as shown below Change these values as required Select OK to resize or Cancel to ignore x-hgt Plate Width 1184
Object Justification C Left  Ocentre	Plate Height 575
ОК	Cancel

You can experiment by changing the x-hgt, plate width and plate height sizes. For example changing the plate width to 750mm wide will give a x-height of 63.35 or changing the x-hgt to 70mm will give a plate width of 829mm

You could just leave the x-height at 100mm which makes it easy to scale by the sign manufacturer Ultimately the decision is yours

Town

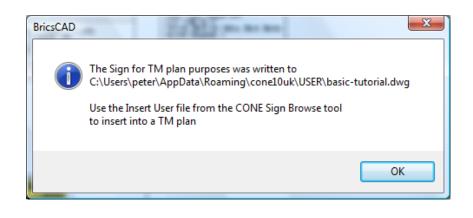
entre

When you have finished revising plate sizes select the **OK** button and place the finished sign and data information on your drawing

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Scale: x-height = 4 units Text x height: 63.3 Plate Size (in mm) : Width: 750, Height: 364 Area: 0.27 sq m Colours: Black on Yellow, Black Border Number Required: 1

Because you have opted to also create a sign for TM purposes the system reminds you of its location and how to go about inserting the sign into a TM plan



# END OF TUTORIAL

# CONE10UK

Temporary Traffic Management AT YOUR FINGERTIPS

Software for the Creation of Temporary Road Traffic Control Diagrams & Route Diversion Schemes

> CONE is solely developed and distributed by CADaptor Solutions The Heritage Exchange, Lindley, Huddersfield, HD3 3HR Tel: 01484 489339 Email: <u>info@conesoftware.com</u> Web: <u>www.conesoftware.com</u>