

## Intelligent Scheme Plans

The principle of the Intelligent Scheme Plan is to create a drawing of a railway network where the lines and symbols are more than dumb graphical representations of real-world objects. Drawing elements in an Intelligent Scheme Plan 'know' what they are. For example, a signal 'knows' which track is associated with and what the distance to the next and previous signals are.

Some of the benefits of an Intelligent Scheme Plan are:

Time consuming tasks are reduced or eliminated so drawing and re-drawing times are reduced.

- Time saved on drawing and re-drawing can be spent on refining the design and trying alternative layouts.
- Less time is invested in individual layouts so radical changes can be considered later in the design process.
- Better quality designs can be created in less time.

### DRAW ONCE - USE MANY TIMES

Creating better designs in less time is only half the battle. The Intelligent Scheme Plan makes it easy to share design information with other applications (such as PLANS) and other parts of the design process.

Need a list of all the signals in a layout plan in a spreadsheet format? - No problem.

How about the distances between them? Or their distance from a datum? All this information is there and accessible in a variety of formats including Network Rail SDEF<sup>1</sup>.

### DATA FROM EVERYWHERE

You can create an Intelligent Scheme Plan in many ways:

- In the traditional 'blank sheet of paper' fashion, entirely by hand.
- With Google Earth.



Google Earth Railway Mapping System (GERMS)

- Using data from a train-borne survey.
- Using digital mapping data from Ordnance Survey.
- With data from a hand-held GPS.
- With data from a manually created spreadsheet.
- Any combination of the above.

### IT'S A TWO-WAY THING

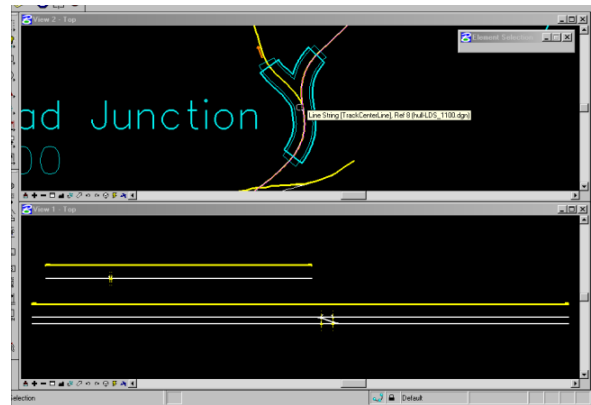
The Intelligent Scheme Plan is not just a source of data. Other applications can feed information to the Intelligent Scheme plan.

<sup>1</sup> Signalling Data Exchange Format

For example an external program to calculate braking distances can extract track lengths, gradients and signal locations from the Intelligent Scheme Plan. This program might detect that some signals could be re-positioned to improve the throughput of trains.

The Intelligent Scheme Plan can read the new locations and either create a new layout plan showing the new signal locations or update an existing layout plan. It can even create a composite layout plan showing both the old and new/proposed signal locations.

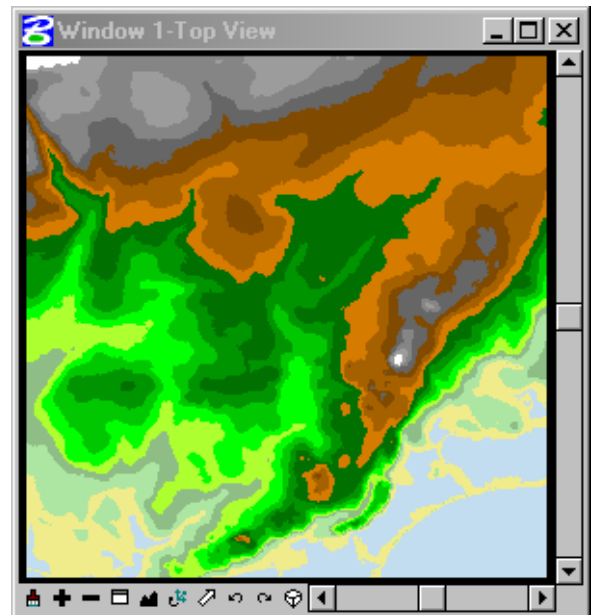
### IT'S CAD JIM, BUT NOT AS WE KNOW IT



Intelligent Scheme Plan in MicroStation

This Intelligent Scheme Plan was created from data exported from GERMS (Google Earth Railway Mapping System) and is show here in MicroStation before being exported to PLANS.

The height data (below) was merged with the layout plan to create a 3D picture.



Ordnance Survey Height Data

### MORE INFORMATION

For more information on Intelligent Scheme Plans, GERMS or the use of Ordnance Survey mapping data contact: [derek.hunter@dhp11.com](mailto:derek.hunter@dhp11.com) or visit our web site.