

MISSENDEN ABBEY

RAILWAY MODELLERS' RESIDENTIAL COURSES

LAYERED

TOWNSCAPE



Urban and industrial backscenes very often feature a single row of relief building facades, and they do a great job, but with high viewpoint/low baseboard combinations, there is sometimes a question whether you would be able to see further into the distance by looking over their rooftops.

This follows the rough principle where the higher up you are, the further you can see, and the answer to this can always be found by studying the buildings' relationship to the backscene's level horizon. It's simple to check this on a temporary mockup.

MOCKUP & HORIZON LINE

Trim some sheets of white card to the maximum possible height, and position them behind your layout, overlapping by a few inches. Stick them together at the back, cut round any scenic breaks and adjust them to give the maximum depth between the rear face of the layout and the rear panel. Plan to include curved ends, like a diorama,

with as large as possible a radius for the best effect. Once satisfied with the path of the rear panel around behind the layout, it can be marked, and temporarily fixed in position.

The first step to any backscene job is to position the optimum horizon line, so let's just re-visit this all important datum and recognize where it will appear on your layout. (Pencil a level horizon in as though the landscape is a totally flat desert plain). If, (in the case of a relatively low viewpoint), it happens to be concealed behind a complete row of frontages, they will naturally obscure any further view, no distance can be observed and most of the modelling effort can be directed to the facades, and the sky above.



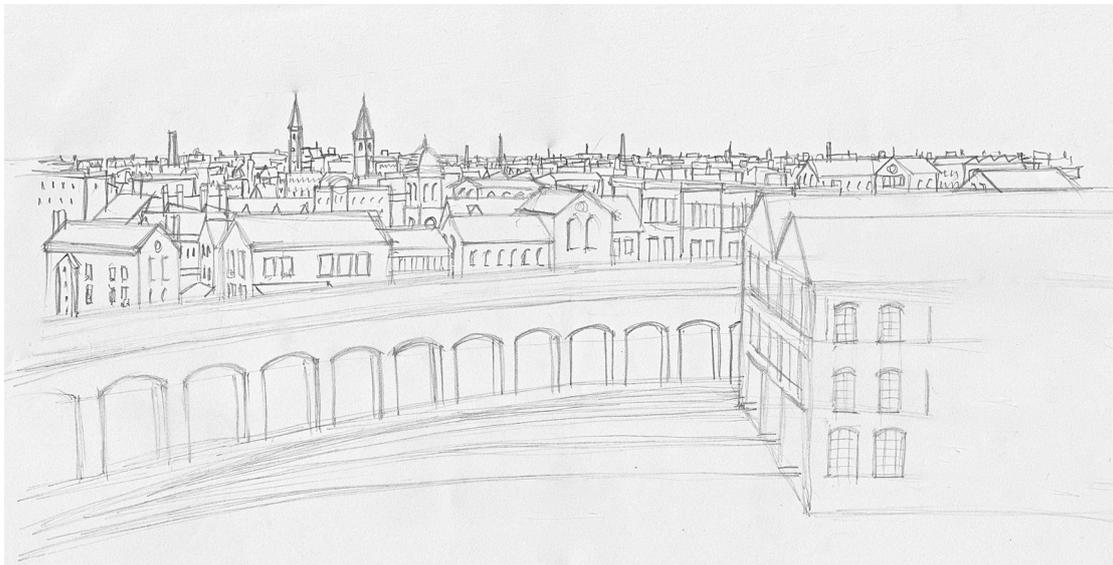
Alternatively, if the datum line does occur above the rooftops of the nearest buildings (because of a higher viewpoint), the upper stories and rooflines of a town scene will then come into view. A view to further distance will also partially apply if the relief frontages do not occupy the full width of the backscene. This 'in progress' mockup shows both instances, and it will eventually form the basis of an 3D arrangement sketch to get the ball rolling. As you gather reference and information, it can all be included a step at a time, eventually building into a series of receding 3D layers.

There's no need to be stuck with a single building layer if this does turn out to be the case, in fact it's quite easy to create a 3D townscape as long as we give ourselves some landscaping space to work in. The more room that is allowed for this, the more successful it can be, just by introducing a series of focal layers made out of collaged and overlaid prints. It's a quick and straightforward job to undertake, and it avoids that unlikely 'edge of the world' look (with apologies to the flat earth society).



With a relatively low viewing elevation, the horizon datum might well be concealed behind a row of buildings like this sketch. The skyline will be broken by the nearest buildings, thus obscuring any view to far distance. A certain amount of layering can be seen here, but only the nearest buildings are fully visible.

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This sketch shows an urban setting from a higher viewing elevation. The foreground descends accordingly, and the horizon datum appears to move up in relation, rising above the nearby buildings. An overview to distance now appears, and a fully detailed town can provide the backdrop instead of just a row of nearby facades.

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REFERENCE



The reference for a townscape can be assembled from many different sources, so the less guesswork the better.

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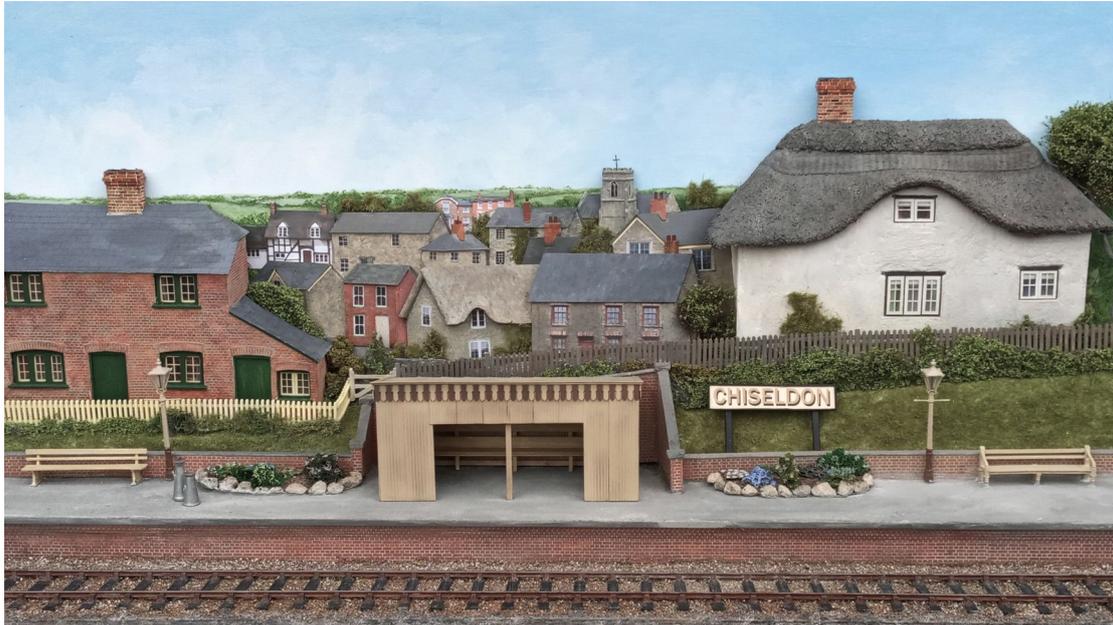
We can look for information in a number of different sources, like O. S. maps, Site Photos, Old photos and postcards, Books, Local history archives, Aerial pics, Computer image libraries and Contour panoramas, Building elevations & plans, Paintings, Prints and finally family histories as well.

Quite an extensive file of background information is essential to minimize guesswork, and the general rule with this is 'too much ain't enough'. The research never quite yields a perfect set of colour images of every subject without any information gaps, but the main thing is to keep looking for the visual reference you need. It is a time consuming exercise, but as the search progresses, you find yourself becoming progressively more familiar with the surroundings of the chosen location.

Inevitable and frustrating information 'gaps' become apparent during the quest for historical data. The ups and downs of this will already be familiar to anyone who has produced a prototypical layout, and much in the same way, the solution to fill in the blanks has to be an educated guess.

Searching for landscape paintings and photography on a computer can save a tremendous amount of time during the process of deciding what you want your backscene to do for the layout, image libraries can provide the inspiration to visualise any atmosphere that you might want introduce.

TIME WINDOW



It's wise to limit the townscape to a certain time period. This will clarify the age and layout of the buildings, while keeping to the dates corresponding to your existing collection of rolling stock (for the sake of authenticity). This one is based on a sepia postcard from the turn of the last century

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MAPS

Once the period is decided, we can then identify a geographical viewpoint position as we look over the railway. Getting hold of plenty of maps with different scales and types always comes in handy for cross referencing. This really applies to prototypical layouts, but they can also help to influence and add realism to a townscape in the case of a 'typical' scenario as well.

The first glimpse of a locality can be surveyed by positioning your map horizontally at viewing height, then taking a worm's eye view across the surface, with the size of the railway on the map corresponding to that of the layout. Looking across, it shows the footprints of what was once present, like building outlines, crossroads and other labelled landmarks.

Particularly with urban areas, a road map also helps with the written information to take the next steps of reference gathering, letting you identify period landmarks like crossroads, churches, and industrial or large public buildings, and these prominent features can then act as grid reference points within the townscape to help frame the localities and keep them in proportion.

You now have the beginnings of what would have been visible but only in horizontal 2D. The features can be plotted out using the same principle as the immediate

locality, but by using a combination of smaller-scale maps and photographic reference. Features that have long been removed from the landscape can now be re-plotted back into their previous positions.



Compress your maps with a computer graphics program like 'Word' to help visualise the relationships and directions of roads, and the aspects of buildings.

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CONTOUR PANORAMA

120° 120° SE 140° 160° 180° 120° S 180°



If you are doing a townscape which is situated in a hilly or mountainous region, it's a good idea to plot the information onto a contour panorama, and initially, your layout background can be worked out automatically using the 'Generate a Panorama' on-line resource. Confirm the placement of the landmarks onto an undulating surface by using photographic reference, superimposed onto the panorama, and if you have enough landscaping room, use the black outlines to produce a set of 3D layers for added effect.

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Contouring has to be sorted out before any mock up arrangement is made, and so it's almost a question of making profiles representing the natural lie of the land, then making plateaus for the various buildings once you have that basis. Roads and plots can be levelled just as they are in real life and on slopes, it gives us a series of steps, with each house resting at a noticeably different level to the next.

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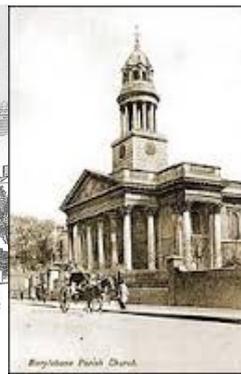
LANDMARKS

With road map information, we can find out if anything still exists from the relevant time period, and any labelling of roads or structures can become a search category to look up any useful photographs or drawn elevations.



Getting to know the areas and landmarks by just adding more and more homework into the scene a few sessions at a time gives a bit of variety, and a bit of research time as a change from layout construction or can sometimes be welcome. As I learn and discover the positions and relationships of a historic townscape, I put a label onto the sketch, so I can find my way back. Only a handful of structures survive today in the equivalent modern view, so the rest has to come from OS maps and old photos.

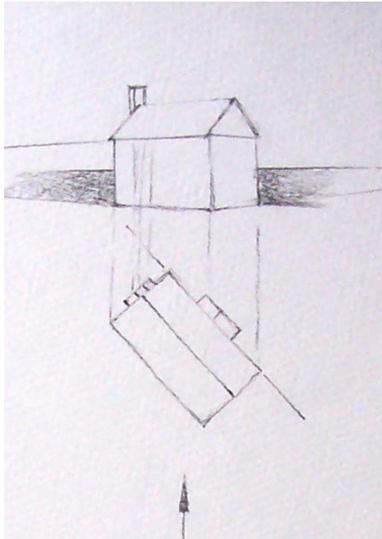
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With a horizontal view over the map, landmarks can be sketched into place or represented as simple cardboard cutouts in a 3D relief scene using the viewing aspect to rotate the footprint correctly. The buildings in between follow from map reference to fill the gaps, but many are of course seen from the back or side making life difficult! Road directions can be drawn onto a series of arrangement sketches by extending them until they reach the horizon line, and the lengths can be calculated as they join up the landmarks. It's a sort of join the dots exercise.

ASPECT

Plotting the aspect of a building can easily be done by projecting the corners of the footprint in the opposite direction to the viewpoint.



PHOTOS

The pictures contain the information to detail the map footprints by showing the buildings height and characteristics. Some of them can be directly taken if the reference survives, by paying a visit to the location with a camera. A further trip to a local historic archive, along with an internet image search, is sure to pay off when doing a historic townscape, and finally some handy Google street level screen shots, so there are a number of photograph sources to explore. It's important to remember that most of them will be recorded from the wrong view elevation, so while they are valuable, the perspective probably won't fit your mockup. Because scenic model railways are not generally viewed from the height of a scale figure, (which is the equivalent of a reference photo), it just means the recorded images often can't be used directly.

FRONT ROW

If you already have a layout scale row of relief buildings, and are intending to do some layering in smaller scales behind, it's vital to keep a similarity between the existing frontages and the new additions. Using the same basic methods to produce additional layers will help to prevent any visual discrepancies, so if you do have a particular preference, like printed card kits for instance, then continue the theme by using reduced scale versions of similar kits for the overlapping layers behind. It will

defeat the object of graduating gently from foreground to distance. If the join between backscene and layout is too pronounced.

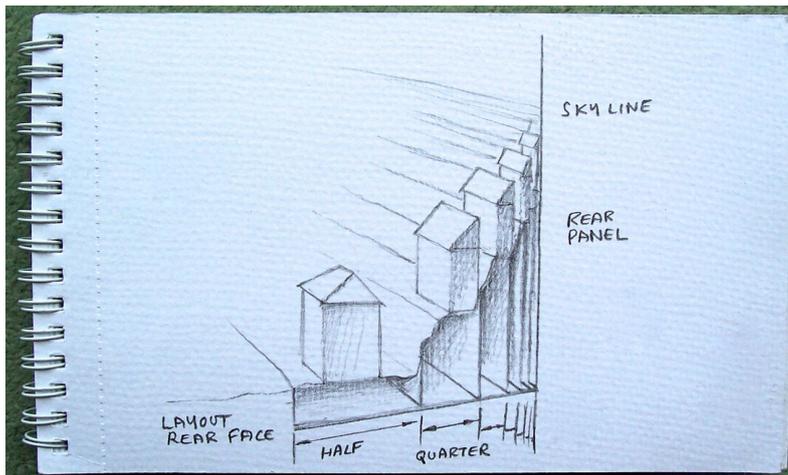
SMALLER SCALED LAYERS

With the level of dense building planning in towns and cities you often can't see any ground surface between structures from typical layout viewing angles, so the layered buildings can just be attached to vertical supports, and simple flat spacers concealed below the overlap are fine.



Particularly when doing townscapes and collaged work, a great deal of lovely detail can be applied by just temporarily fixing a few layers together. Not only can you see the effect of one behind the other taking shape, you can also add in intermediate features like extra rooflines and chimney pots or gaps between buildings where trees sometimes appear.

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This is a useful guide for doing smaller scaled layers, where you progressively halve the space allowance for each layer as you approach the rear panel.

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With a decent drawing, it might be worth considering doing a building as a separate cut out which can be applied to a 2D backscene later on. This isn't a purist's painted canvas, there is every reason to collage the backscene together from separately made elements just like the layout itself, especially, if it means you can concentrate on getting the job done in comfort, as they can be detailed in ideal conditions at the bench and fitted into the townscape when complete.

Terraced rows and other buildings can be identified and projected up from similar local survivors, and surviving examples sometimes appear on old maps with equivalent sizes and features. In the complete absence of any actual photographic proof, there is sometimes no alternative but to apply an educated guess, but a house back aspect can often be copied from similar local examples with near identical footprints. This also then tells you the height and building materials, like the colour of the brickwork, the window sizes and layout and so on. Include trees and foliage as well as any gaps, specialised buildings and local industry, always referring back to the photo reference as you progress.

DRAWING & PAINTING LAYERS

Draw the details onto the ever decreasing scale layers with a sharp pencil and rule, including every feature, capping stones, keystones, corner stones, arches, barge boards, ridge tiles, chimneys and gutter brackets. Include any decorative masonry like raised courses and carved stone work.

They will all be present on the layout structures, so let's get rid of any possible discrepancies by including them all on the backscene structures as well. It is not a good place to adopt the broad brush approach, because buildings are accurately constructed with plumb lines and squares and should be represented as such. Even if they are understated, modest additions to a backscene, always keep them accurate and fully detailed.

COLLAGE

There is always a difficulty when seeking collage material, as many buildings are recorded from unsuitable viewing heights depicting them in completely unsuitable perspective angles, or intense directional light or shadow fall.

Print your images on to matt paper and stick to photographs, not painted or drawn representations. These can be adjusted for perspective, saturation, and contrast using photo editing programs, but this will of course depend on your own ability, or possibly a contractor, or colleague.



This backscene town was done with a combination of painted buildings from reference but some collaged matt images were also blended in.

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Trim and fold the images progressively out to distance and mount onto strips of card, increasing the details as the buildings get closer by. Window sills and gutters etc as well as roofs can be drawn and traced from the layer back, then trimmed out and coloured. Remember to keep the tile textures aligned with the building's horizon line and vanishing point.

It is sometimes possible to produce suitably sized elements from photo reference by importing a picture into photoshop and then altering the perspective until it fits correctly onto the backscene. Interfacing between the computer and the backscene is easy, you approach the relevant building on your mock up with a piece of tracing paper and draw the building shape at the size to suit the mockup. Scan it at actual size, import the trace into photoshop as well and you can then use it as a guide to format the collage image.



Computers are excellent for modifying building façade images until they conform to a backscene's perspective guidelines. The surfaces and textures are all digitally re-configured for us at the touch of a few buttons, but to get the most from the method, there is still a benefit in adding 3D details in areas like the roof, chimney, gutters and window sills.

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It's possible to re-configure buildings by retouching, repeating and adjusting their colour levels. Scaling from the reference to get the relative sizes correct, they can be printed onto matt paper and backed with mounting card allowing them to be used as collage elements. Particular buildings can be photographed and included into prototypical rows by editing, so it is possible to render quite an accurately researched set of buildings, then group them together to match a map footprint as closely as possible.

As long as you have the sizes and a tracing of the intended feature, with photoshop, practically anything is possible. Images can be darkened, lightened, extended, compressed and even weathered to blend into a scene as necessary.

Collages can be very effective, and of course the time saving aspect always beckons, but they can be quite tricky when it comes to achieving that important visual consistency. If an element doesn't look right, either work on it some more, or save it for another job. Trust your instinct to reject a collaged component that somehow won't settle down into a scene. If you leave it in it will just bug you and all the successful blending work you will have achieved will go to waste. The acid test is 'does it look absolutely realistic', and it's the right time to be ruthless. Beware of adjoining a building photographed in directional light with very heavy shadows to one taken in even lighting without. There are always benefits to checking collage elements to see that the lighting and tonal settings are in balance with the neighbours!

TEST SECTION

Producing a short test section of townscape will familiarise you with the process, and the sizes and horizon line can match your layout.



With a panel height and horizon line decided, we can experiment with a trial section, this is an offcut of 5mm foam, or poly art board, with a sheet of sky blue matt paper spray mounted on. Try it on your layout and decide where the horizon line looks best.

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Add a sky to just below the horizon line. This could be painted from reference, or applied as a photo print.

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To allow the layers to overlap, we can start by adding the very smallest scale buildings as they break the far skyline. These are collaged prints stuck to flat card.

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The skyline buildings are detailed with chimney pots, and other pre-prepared layers are overlapped with concealed spacers between.

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Building up the layers now, with progressively larger scale printed collages, increasing the spacing, and folding angles into the facades, as well as introducing a slight pitch to the roofs and always making sure those all important chimney pots are present.

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The next focal layers are the first with supports extending down to baseboard level. Folded card is perfectly good, and they can be maintained upright with spacers, and a setsquare placed to the edges and face. There's plenty of architectural detailing that can be added for extra realism by the time we get to this stage.

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A layer is added at just below the scale of the layout. The side view shows that relatively little physical depth is required to include a 3D townscape.

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The rigidity of the rear panel tends to keep the layer assembly sturdy enough once this has all dried in situ, so between it and any framework where the backscene meets the layout contour, I find that most of the time that gluing the layers is enough. They don't have to bear any loads, so as long as they are well secured to the rear panel and the baseboard mating surface at the front edge, It's just a question of making sure they remain stuck to each other!

Always profile, cut, stick and cover layers onto the baseboards right over any panel joins, with the sections pinned or fastened together. Just ignore the join completely, and press on, because this will give a natural continuity of contour to the layers. They can easily be marked at the join, and cut apart again with a saw blade once the work is complete, and all the glues have dried.

Refer to good clear photographs of the prototype, or a similar example for comparison. Trace over the outline of the required building and tape it to a small easel or lectern, to be in a position to start work on it comfortably. It's not a job that will be practical do undertake in situ, leaning over a complete layout bristling with fragile signals and sharp finials! Like any backscene, it's always best to come up with a removable section done to match your 3D mockup.

EXAMPLES



Coastal town backscene with sea and headland to distance.

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Wharf buildings on a riverbank

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Industrial townscape with chimneys and spires.

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Town backscene, with viaduct in middle distance

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A number of townscape mockups have been undertaken on Missenden Abbey modeller weekends, so please do keep up with future plans at :

<https://www.missendenrailwaymodellers.org.uk/>

<https://www.facebook.com/Missenden-Abbey-Railway-Modellers-601123499921538/>