

Tips for Layout Planning and Construction
By Pat Homan



Modelers Aid Guide -04

This sheet is not meant to be a guide on how to construct a layout but rather, to provide some helpful hints on items to aid in the construction and the identification of some pitfalls. If you are constructing your first layout, we advise you to purchase one of the many books on basic layout construction, then to contact one of the representatives in the **Cincinnati Division 7 “Modeler’s Aid”** group. It helps to discuss and review your plans before launching into the purchase of wood and materials. This can help avoid the purchase of unnecessary items or not getting what you need.

Tools:

Most of us have the common tools needed for layout construction or we can borrow them. The following is a list of the basic tools we recommend:

- Hand saw or power circular saw
- Electric drill or battery operated portable screw gun with both drill bits and driver bits
- Tape measure and marking pencil or pens.

Additional needed items:

- Carpenters glue (the yellow stuff)
- Drywall screws (#6 or #8’ inch and a half will normally do). Drywall screws have been a great aid to layout construction. They come in fine or coarse threaded versions. The coarse thread ones work best.

Things to do:

Layout planning-curves

When planning the layout, use the largest radius curve you can fit in. Many model locomotive manufacturers advise that their units will operate on an 18” radius but a 20” or 22” radius will result in smoother operation. If you want to model any modern period from the 1970’s on, you will be operating models of 50 and 60 foot long freight cars. These do not always work well on 18” radius curves. A larger radius will result in smoother operation of these cars as well as operation of any passenger cars.

Curves should be “eased” for best operations. An eased curve is one that the curve does not start abruptly but the straight section gradually enters the curve. This is often accomplished on only a few inches of space but your equipment will track better.

Layout planning-grades or inclines

Grades are vertical curves. It is extremely important to ease your vertical curves (grades) lest equipment hang up on the abrupt change at the top or bottom out at the lower end of the grade.

How can we illustrate these on the computer???

Overall layout planning

Leave some flexibility in your track planning. The difference in the track planned on paper, and the track laid on the layout can be enough that we can not fit it all in. The switches, siding and the actual track itself may eat up more space than the paper plan indicates.

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Leave room for scenery and structures. If you want a certain station or structure, plan on the space you will need between the tracks or next to the track to have it fit. In HO scale, you will normally an inch and a half of clearance outward from the rail, for clearance.

Think about what type of layout you want. Most of us start with a 4 X 8 sheet of plywood. This is fine as we can run the trains in a circle but there are limitations. Consider the 4 X 8 cut into two (2 ea.) 2 X 8's and laid end to end or in an L, and operate as a point to point layout. This can give you 16 feet of space.

Get your wiring in early. It is easier to sort out a problem before the scenery and structures go on.

Get some structures and some ground cover down early. This makes the scene look more realistic and encourages you to keep going.

Things to avoid if possible:

Room for track clearances

Try to keep the track at least two inches (or farther) from the edge of the layout. If the track is too close to the edge, it is easy to knock over your prize locomotive with an elbow or even a loose sleeve. Also, if you have a derailment at the edge, the odds are the equipment will take the big plunge to the concrete canyon.

Conversely, try to keep track a maximum of two feet from the edge as this is within a safe reach if something needs to be re-railed or the track needs maintenance. Remember, you can probably reach 30 inches but once scenery and structures go down, your reach will be restricted. One of the harsh rules of model railroading is that the problem will develop in the most in-accessible spot.

Operator access

When planning "duck-unders", (i.e. areas that access the interior open portion of a layout that require you to duck underneath the outside bench work of the layout) consider your knees and joints today will not be the same knees and joints twenty years from now. A walk-in design is more forgiving but takes more space.

Twice right is better than once wrong

If something is not right or not to your satisfaction, re-do it. Never be afraid to tear something up and re-do it. We don't have to live with frustrations on the model railroad. This is a hobby that is supposed to help us relax.

Get the help you need

Don't hesitate to ask for help. Few of us know everything or can do everything. One of the great things about this hobby is the ability to find help and to share.

This is a hobby so do what you enjoy and enjoy what you do. If you want to discuss layouts, trains, ask questions or need help, contact the Division 7 Members Aid Committee.



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